



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO23060

Purchase Order Date 2/19/2014

PO Print Date 2/19/2014

Page Number 1 of 4

Order From :
B/E AEROSPACE INC
88289 EXPEDITE WAY
CHICAGO, IL 33172
USA

VU-BEA001

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FACSIMILE
2/19/2014

Contact Name
Vendor Phone 305-925-2600

Ship To Contact
Ship To Phone
Ship Via: FedEx PI collect
Ship Acct:

Buyer Chantal Lavoie
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency USD
FOB FCA - (Free Carrier)

M128300

Line Nbr	Reference Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	MS27039-08-07	SCREW	2/21/2014	200.00	✓	\$0.13	\$26.00
			Yes	Each			
			2/21/2014				
2	MS17984-C413	Quick Release Pin	2/21/2014	FN	30.00	✓	\$18.00
			Yes	Each			
			2/21/2014				
3	MS21042L4	Locknut	2/21/2014	FN	3,000.00	✓	\$0.14
			Yes	Each			
			2/21/2014				

PO Instructions: Procurement Quality Clauses
A005 RIGHT OF ENTRY
A012 CHEMICAL AND PHYSICAL TEST REPORTS
A016 PERSONNEL QUALIFICATION
A032 PUBLIC LAW 101-592 FASTENER QUALITY ACT
A033 STATEMENT OF CONFORMITY/TEST RECORDS FOR NAS, AN and MS FASTENERS
A041 QUALITY

Note:

14/2/24



B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO23060

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
4	1000	EA	MS21043-4		M022647-000	ALCOA ROSAN 800 STAT	66776		


Jason Lewis
Vice President of Quality

02/20/14

Alcoa Fastening Systems



Packing Slip



Packing Slip: 9948074540

Page: 1

Bill To: 5574
B/E AEROSPACE, INC.
P.O.BOX 025263
MIAMI FL 33102-5263
USA

Ship To: (14)
B/E AEROSPACE CONSUM MGMT
9835 NW 14TH ST
MIAMI FL 33172
USA

From:
ALCOA FASTENING SYSTEMS
AEROSPACE PRODUCTS
FULLERTON OPERATIONS
800 SOUTH STATE COLLEGE
FULLERTON CA 92831
USA

Order Contact:

Pack Date	Order #	Cust PO	Ship Via	Weight	Pkgs #
10/28/13	F440571	OKAP64			

Line/Rel	Item	U/M	Qty Ordered	Qty To Pack
8-1	AAT880 H41-4	EA	500,000	97,010

C/I: MS21043-4 *Rev 3*

PO Item #: 8

*** TSO C-148 APPVD PART. TSO LABEL REQ'D ***

Lot: M022647-000 COO:MEXICO

Waybill: _____

HTS-Code: 7318.16.0060

Cust Date: 11/12/13

Kay Date: 10/29/13

ECCN: 9A991 Schedule-B Number: 7318.16.0000

The export classification appears above. You are
responsible for all related export license
requirements.

DUAL CERTIFIED TO: 2637654, NAS1291A4, N
AS1291C4
MFG C OF C CHEM & PHYS TEST REPORT REQ
CHARGES ON LINE # 9 INVOICE WITH LINE
8

10/28/13

ALCOA GLOBAL FASTENERS, INC.

Kayan Products: Cage Code 15653 • Eagle Products: Cage Code 66776 • Rosan Products: Cage code 66776

ALL CLAIMS REGARDING THIS ORDER MUST BE REPORTED TO SELLER PROMPTLY. CLAIMS FOR CREDIT OR REPLACEMENT OF PARTS MAY BE LIMITED TO THOSE PARTS FOR WHICH TRACEABILITY HAS BEEN MAINTAINED BY THE BUYER. THE SELLER'S MANUFACTURING LOT IDENTIFICATION NUMBER AND RETURN MERCHANDISE AUTHORIZATION (RMA) NUMBER MUST ACCOMPANY ALL RETURNS. ANY CLAIM BASED ON AN ALLEGED DISCREPANCY IN QUANTITY, QUALITY, ETC. BETWEEN THE GOODS ACTUALLY SHIPPED AND/OR DELIVERED UNDER THESE DOCUMENTS AND THE DESCRIPTION THEREOF IN THESE DOCUMENTS, MUST BE MADE IN WRITING TO SELLER NOT LATER THAN NINETY (90) DAYS AFTER THE SHIPPING DATE APPEARING HEREON. FOR ITEMS CERTIFIED TO BPS-N-70, ALLOY VERIFICATION HAS BEEN PERFORMED ON PARTS WITH A DATE OF MANUFACTURE ON OR AFTER JANUARY 1, 2001. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW.

CUSTOMER'S COPY

Alcoa Fastening Systems



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FULLERTON OPERATIONS
800 SOUTH STATE COLLEGE
FULLERTON CA 92831
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Pack Date	Order #	Cust PO	Ship Via	Weight	Pkgs #
10/28/13	F440571	OKAP64			

Line/Rel	Item	U/M	Qty Ordered	Qty To Pack
----------	------	-----	-------------	-------------

SHIP VIA : FED EX GRD
BUYER: ROHAN JOHNSON
MATERIAL COMPLIES WITH DFARS 252.225-700
9 PREFERENCE FOR DOMESTIC SPECIALTY
METALS" WITH ITS ALTERNATE 1.
***SHIP VIA FEDX GRD COLLECT ACCT# 0331-
0149-0 IF 150 LBS OR MORE:SHIP FED
EX FREIGHT ECONOMY COLLECT ACCT# 018757.

DO NOT SHIP BY ANY OTHER WITHOUT PROPER
WRITTEN AUTHORIZATION.

ALLOWABLE SHIPPING TOLERANCE = +0%-0 %.

** BAR CODE PER QAP 33 CLAUSE P REQUIRED

** QAP 33.0 REV F CLAUSES: A,A.1,B,C,E,H
,P,U,V. CLAUSE A.3 GENERAL TERMS

APPLIES.

chem & phys certs

ALCOA GLOBAL FASTENERS, INC.

Kaynar Products: Cage Code 15653 • Eagle Products: Cage Code 66776 • Rosan Products: Cage code 66776

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Alcoa Fastening Systems



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MIAMI FL 33102-5263
USA

Ship To: (14)
B/E AEROSPACE CONSUM MGMT
9835 NW 14TH ST
MIAMI FL 33172
USA

From:
ALCOA FASTENING SYSTEMS
AEROSPACE PRODUCTS
FULLERTON OPERATIONS
800 SOUTH STATE COLLEGE
FULLERTON CA 92831
USA

Notice to Subsequent Purchaser or Repacker.
These articles are imported. The requirements of 19 U.S.C. 1304 & CFR part 134 provide that the articles or their containers must be marked in a conspicuous place as legibly, indelibly & permanently as the nature of the article or container will permit, in such a manner as to indicate to an ultimate purchaser in the United States, the English name of the country of origin of the article.

Order Contact:

Pack Date	Order #	Cust PO	Ship Via	Weight	Pkgs #
10/28/13	F440571	OKAP64			

Line/Rel	Item	U/M	Oty Ordered	Oty To Pack
8-1	AAT880 H41-4	EA	500.000	97,010

C/I: MS21043-4 *Rev 3*

PO Item #: 8

*** TSO C-148 APPVD PART. TSO LABEL REQ'D ***

Lot: M022647-000 COO:MEXICO

Waybill: _____

HTS-Code: 7318.16.0060

Cust Date: 11/12/13

Kay Date: 10/29/13

The export classification appears above. You are responsible for all related export license requirements.

DUAL CERTIFIED TO: 2637654, NAS1291A4, N
AS1291C4
MFG C OF C CHEM & PHYS TEST REPORT REQ
CHARGES ON LINE # 9 INVOICE WITH LINE
8

CERTIFICATE OF CONFORMANCE

This is to certify that all items noted above were produced in conformance with the contract, drawing specifications, and other applicable documents. All required process certifications, chemicals and physical test reports are on file subject to examination. This document must not be reproduced except in full and relates only to the items tested.

Michele M. Varela
MICHELE M. VARELA
Quality Manager
Fullerton Operations

K452
10/28/13

ALCOA GLOBAL FASTENERS, INC.

Keytar Products: Cage Code 15653

Eagle Products: Cage Code 66776

Rosan Products: Cage code 66776

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CUSTOMER'S COPY

Alcoa Fastening Systems



Packing Slip



Packing Slip: 9948074540

Page: 2

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B/E AEROSPACE, INC.
P.O.BOX 025263
MIAMI FL 33102-5263
USA

Ship To: (14)
B/E AEROSPACE CONSUM MGMT
9835 NW 14TH ST
MIAMI FL 33172
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From:
ALCOA FASTENING SYSTEMS
AEROSPACE PRODUCTS
FULLERTON OPERATIONS
800 SOUTH STATE COLLEGE
FULLERTON CA 92831
USA

Order Contact:

Pack Date	Order #	Cust PO	Ship Via	Weight	Pkgs #
10/28/13	F440571	OKAP64			

Line/Rel	Item	U/M	Qty Ordered	Qty To Pack

SHIP VIA FED EX GRD
BUYER: ROHAN JOHNSON PHONE:

MATERIAL COMPLIES WITH DFARS 252.225-700
9 PREFERENCE FOR DOMESTIC SPECIALTY
METALS" WITH ITS ALTERNATE 1.
***SHIP VIA FEDX GRD COLLECT ACCT# 0331-
0149-0 IF 150 LBS OR MORE:SHIP FED
EX FREIGHT ECONOMY COLLECT ACCT# 018757.

DO NOT SHIP BY ANY OTHER WITHOUT PROPER
WRITTEN AUTHORIZATION.
ALLOWABLE SHIPPING TOLERANCE = +0%-0%.
** BAR CODE PER QAP 33 CLAUSE P REQUIRED

** QAP 33.0 REV F CLAUSES: A,A.1,B,C,E,H
,P,U,V. CLAUSE A.3 GENERAL TERMS
APPLIES.
chem & phys certs

Kaynar Products: Cage Code 15653 • Eagle Products: Cage Code 66776 • Rosan Products: Cage code 66776

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CUSTOMER'S COPY

MICHELE M. VARELA
Quality Manager
Fullerton Operations

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ALCOA GLOBAL FASTENERS, INC.

**Alcoa
Fastening
Systems**



Aerospace Products
Fullerton Operations
800 S STATE COLLEGE BLVD
FULLERTON, CA 92831

TEST REPORT

NO.

8192433

Page 1 of 3

Lot No.

M022647-000

Supplier Item No. AAT880		Supplier Part No. H41-4		
Interchange Part No. 2637654 Rev. B		Interchange Part No. 525-595-9006 Rev. N		Interchange Part No. H41-4
Interchange Part No. MS21043-4 Rev. 3		Interchange Part No. N8862175/F Rev. 5a		Interchange Part No. NAS1291A4 Rev. 13
Interchange Part No. NAS1291C4 Rev. 13		Interchange Part No.		Interchange Part No.
Manufactured Quantity 97010	Mfg. Date 08/30/13	Generic Description 6 POINT NUT		Thread Size .2500-28
PLATE/COAT AMS 2410 REV. K		HEAT TREAT AMS-H-6875 REV. B		
Non-Destruct ASTM E1417 REV. 11 E1 SAMPLE		PERFORMANCE NASM25027 REV. 1		
Material Spec. # 1	Mill Heat No. 970057	Control Heat No. AA19066B	Material Supplier CARPENTER TECHNOLOGY CORP	
Special Process Requirements: THREADS AND GAUGING PER AS8879 Rev.DR12 and ASME B1.3M SYS. 22 MIN EQUALS BKWY MAX EQUALS INST. *Conforms to AMS5732J after HT Treat MAGNETIC PERMEABILITY LESS THAN 2.0				

TEST RESULTS

TEST No. Description	UOM	SAMPLE Number	RESULT Cycle	MINIMUM Value	MAXIMUM Value	PASS/ Fail	MINIMUM Requirement	MAXIMUM Requirement
I - 010 TORQUE TEST MIN. 3.50 & MAX 30.0 IN LBS (CYCLES)	IN#	1	1	18.75	18.70		3.50	30.00
			7	12.30	11.65			
			15	10.40	10.30			
		2	1	14.80	13.55			
			7	10.05	9.05			
			15	10.10	7.60			
		3	1	12.20	11.55			
			7	7.35	6.50			
			15	6.85	6.75			
		4	1	12.05	12.00			
			7	14.00	13.30			
			15	9.95	9.20			
		5	1	15.45	15.95			
			7	11.95	11.75			
			15	9.70	9.70			
		6	1	19.20	18.00			
			7	13.55	13.30			
			15	12.90	12.05			
		7	1	16.30	14.85			

TEST RESULTS - Continued on next page.

THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL AND RELATES ONLY TO THE ITEMS TESTED

The product identified on this Certificate has been manufactured, tested and unless otherwise noted, conforms in all respects to the applicable drawings, specifications and standards. Complete reports of physical and chemical tests are on file for examination. If no specified customer quality level is required, goods conform to sellers quality level. All Damages Exceeding Price are Excluded. For items certified to BPS-N-70 alloy verification has been performed on parts with a date of manufacturing on or after January 1, 2001. Quality system sampling plan conforms to the requirement of QAP EQ001, QAP EQ002, QAP EQ003. The recording of false, fictitious, or fraudulent statements or entries on the certificate may be punished as a felony under federal law.

MICHELE M. VARELA, QA MGR.

ALCOA GLOBAL FASTENERS INC.

Rev. 12/02 Form 11199

SHIPPER#: 9948074540

**Alcoa
Fastening
Systems**



Aerospace Products
Fullerton Operations
800 S STATE COLLEGE BLVD
FULLERTON, CA 92831

TEST REPORT

NO. 8192433
Page 2 of 3
Lot No. M022647-000

Supplier Item No.
AAT880

Supplier Part No.
H41-4

TEST RESULTS - Continued from previous page.

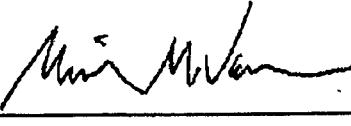
TEST No. Description	UOM	SAMPLE Number	RESULT Cycle	MINIMUM Value	MAXIMUM Value	PASS/ Fail	MINIMUM Requirement	MAXIMUM Requirement
2 - 020 TENSILE TEST BOLT & NUT THD STRIPPED	LBS	1	7	11.80	11.05			
		2	15	9.70	9.20			
		8	1	14.70	14.15			
		9	7	11.05	9.75			
		10	15	8.30	7.55			
		11	1	14.25	12.45			
		12	7	10.90	9.80			
		13	15	8.25	7.60			
		14	1	11.05	12.70			
		15	7	8.30	8.25			
		11	15	7.25	6.85			
		12	1	11.00	10.75			
		13	7	8.50	7.85			
		14	15	7.55	6.85			
		15	1	16.05	16.00			
		12	7	12.35	10.50			
		13	15	8.90	7.40			
		14	1	10.90	10.50			
		15	7	8.05	7.75			
		13	15	6.70	6.25			
		14	1	15.60	13.60			
		15	7	11.20	9.90			
		14	15	9.35	8.00			
		15	1	15.05	14.60			
		16	7	10.25	10.15			
		17	15	9.35	9.45			
		18	1	7370.00			4580.00	
		19	1	4850.00				
		20	1	4850.00				
		21	1	4850.00				
		22	1	4850.00				
		23	1	4850.00				
		24	1	4850.00				
		25	1	4850.00				
		26	1	4850.00				
		27	1	4850.00				
		28	1	4850.00				
		29	1	4850.00				
		30	1	4850.00				
		31	1	4850.00				
		32	1	4850.00				
		33	1	4850.00				
		34	1	4850.00				

TEST RESULTS - Continued on next page.

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ALCOA GLOBAL FASTENERS, INC.



MICHELE M. VARELA, QA MGR.

SHIPPER#: 9948074540

Rev. 12/02 Form 11199

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**Alcoa
Fastening
Systems**



Aerospace Products
Fullerton Operations
800 S STATE COLLEGE BLVD
FULLERTON, CA 92831

TEST REPORT

NO.	8192433
Lot No.	M022647-000

Supplier Item No. AAT880	Supplier Part No. H41-4							
TEST RESULTS - Continued from previous page.								
----- TEST ----- No. Description	JOM	SAMPLE Number	RESULT Cycle	MINIMUM Value	MAXIMUM Value	PASS/ Fail	MINIMUM Requirement	MAXIMUM Requirement
3 - 110 HARDNESS HRC 38-44	RC	15	1	4850.00				
7 - 113 Hardness (HR15N)	-	1	1	38.00	40.00			
				(79.50)	(80.40)			

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MICHELE M. VARELA, QA MGR.

ALCOA GLOBAL FASTENERS, INC.

SHIPPER#: 9948074540

CERTIFICATE OF TESTS
CERT. SERIAL# 000876659

Carpenter Technology Corporation
101 West Bern Street, Reading, Pa. 19601
Tel: (610) 208-2000 (800) 338-4592

ABNAHMEPRUEFZEUGNIS

CERTIFICAT DE CONTROLE

- THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47.
- THE VALUES AND OTHER TECHNICAL DATA REPRESENT THE RESULTS OF ANALYSES AND TESTS MADE ON SAMPLES COLLECTED FROM THE TOTAL LOT. ORIGINAL DATA RECORDS CAN BE TRACED BY REFERENCE TO THE CARPENTER ORDER NUMBER.
- MATERIAL IS MANUFACTURED FREE FROM MERCURY, RADIUM, ALPHA AND GAMMA SOURCE CONTAMINATION.
- THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF CARPENTER TECHNOLOGY CORPORATION.

SELLER/VERKAUFER/VENDEUR PAGE 1 OF 4

07/31/13
CUSTOMER/RESELLER/CLIENT

ALCOA FASTENING SYSTEMS
FULLERTON OPERATION
P O BOX 3001
FULLERTON , CA 92631

CARPENTER TECHNOLOGY CORP
101 W. BERN STREET
READING , PA 19601

CUSTOMER ORDER NO./BESTELL-NR./N° DE COMMANDE	CARPENTER NO./WERKS-NR./N° DE REFERENCE INTERNE	DATE/DATUM/DATE	WEIGHT/GEWICHT/Poids
220677353	LOS397401 L20371	07/31/13	3027.000

HEAT NUMBER / SCHMELZE-NR. / N° DE COULEE:

970057

AA19066B

PRODUCT DESCRIPTION: CONSUMET A286 SOLUTION ANNEALED COLD FINISH SEAM FREE C
----- HDG CL H2 STD CU/LM SOAP
PART NUMBER: 732104

SPECIFICATION: FAIRCHILD MS 309 CLASS A REV 16 (09/15/10)
----- AMS 5731 REAFFIRMED HEADING STOCK REV L (07/ /12)
AMS 5732 REAFFIRMED REV J (07/ /12) (CAPABLE OF)
FAIRCHILD MS 550 REV 2 (12/10/02)

SIZE 0.342000 IN. (8.69 MM) RD WIRE

PRIMARY HEAT CHEMISTRY (WT%):

C 0.04	MN 0.17	SI 0.17	P 0.015	S LT .001	CR 14.36
NI 24.80	MO 1.29	CU 0.11	CO 0.08	AL 0.14	TI 2.01
V 0.27	B 0.0067				

THE CHEMICAL ANALYSIS OF THIS HEAT HAS BEEN PERFORMED BY THE CARPENTER SPECIALTY ALLOYS CHEMICAL LABORATORY, (CODE NUMBER PRI 100004), WHICH WAS ACCREDITED TO THE ISO/IEC 17025.

COUNTRY OF ORIGIN: U.S.A.

THIS MATERIAL HAS BEEN SAMPLED, TESTED, AND INSPECTED IN ACCORDANCE WITH THE SPECIFICATION AND MEETS ALL SPECIFICATION REQUIREMENTS.

THIS MATERIAL WAS MANUFACTURED IN ACCORDANCE WITH CARPENTER SPECIALTY ALLOYS OPERATIONS QUALITY PROGRAM MANUAL REVISION 30, DATED 09/28/11.

THIS MATERIAL WAS MANUFACTURED FREE FROM MERCURY, RADIUM AND ALPHA SOURCE CONTAMINATION.

MILL HEAT TREATMENT:

TYPE	SOLUTION ANNEAL
TEMP	1800F (982C)
TIME AT TEMP	CONTINUOUS FURNACE
QUENCH	WATER

8/6/13

CONTINUED ON NEXT PAGE

This certification is made to the customer printed on this form. Carpenter neither makes, nor assumes responsibility for, any representation or certification to other parties.
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CERTIFICATE OF TESTS
CERT SERIAL# 000876659

Carpenter Technology Corporation
101 West Bern Street, Reading, Pa. 19601
Tel: (610) 208-2000 (800) 338-4592

ABNAHMEPRUEFZEUGNIS

CERTIFICAT DE CONTROLE

- THE RECORDING OF FAISI, FICILICIOS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47.
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- MATERIAL IS MANUFACTURED FREE FROM MERCURY, RADIUM, ALPHA AND GAMMA SOURCE CONTAMINATION.
- THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF CARPENTER TECHNOLOGY CORPORATION.

07/31/13
CUSTOMER/BESTELLER/CLIENT

SELLER/VERKAUFER/VENDEUR PAGE 2 OF 4

ALCOA FASTENING SYSTEMS
FULLERTON OPERATION
P O BOX 3001
FULLERTON , CA 92631

CARPENTER TECHNOLOGY CORP
101 W. BERN STREET
READING , PA 19601

CUSTOMER ORDER NO./BESTELL-NR./N° DE COMMANDE	CARPENTER NO./WERKS-NR./N° DE REFERENCE INTERNF	DATE/DATUM/DATE	WEIGHT/GEWICHT/Poids
220677353	LOS397401 L20371	07/31/13	3027.000

HEAT NUMBER / SCHMELZE-NR. / N° DE COULEE: 970057

HARDNESS AS SHIPPED, HRBW - 85 (MIDRADIUS)

TENSILE AS SHIPPED, KSI (MPA) 93.5 (645)

GRAIN SIZE PER ASTM E112: 7 (KALLINGS)

CAPABILITY

1800 F { 982 C }, 01 HR OIL TREAT
1325 F { 718 C }, 16 HR AIR COOL

COMBINATION STRESS RUPTURE
TEST TEMP 1200 F { 649 C)
STRESS, KSI (MPA) 70.0 (483)
ELONGATION % 40.3
HOURS 71.4

AFTER MINIMUM TIME UNDER SPECIFIED STRESS, THE STRESS RUPTURE TEST WAS OVERLOADED IN INCREMENTS AS FOLLOWS:

TOTAL HOURS	STRESS KSI(MPA)
54	75.0 (517)
68	80.0 (552)

(T) RANSVERSE (L) ONGITUDINAL	YIELD STRENGTH, (0.20 %) KSI(MPA)	L
YIELD STRENGTH, KSI(MPA)	104.0 (717)	1076
ELONGATION IN 1.00", %	156.0 (1076)	28.0
REDUCTION OF AREA, %	54.0	312.0
HARDNESS , HBW		

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CONTINUED ON NEXT PAGE

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CERTIFICATE OF TESTS
CERT. SERIAL# 000876659



Carpenter Technology Corporation
101 West Bern Street, Reading, Pa. 19601
Tel: (610) 208-2000 (800) 338-4592

07/31/13
CUSTOMER/BESTELLER/CLIENT

ABNAHMEPRUEFZEUGNIS

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SELLER/VERKAUFER/VENDEUR PAGE 3 OF 4

ALCOA FASTENING SYSTEMS
FULLERTON OPERATION
P O BOX 3001
FULLERTON , CA 92631

CARPENTER TECHNOLOGY CORP
101 W. BERN STREET
READING , PA 19601

CUSTOMER ORDER NO./BESTELL-NR./N° DE COMMANDE	CARPENTER NO./WIRKS-NR./N° DE REFERENCE INTERNE	DATE/DATUM/DATE	WEIGHT/GEWICHT/Poids
220677353	LOS397401 L20371	07/31/13	3027.000

HEAT NUMBER / SCHMELZE-NR. / N° DE COULEE:

970057

CAPABILITY

1650 F {	899 C },	02 HR	OIL TREAT
1325 F {	718 C },	16 HR	AIR COOL

COMBINATION STRESS RUPTURE	
TEST TEMP	1200 F { 649 C)
STRESS, KSI(MPA)	65.0 { 448)
ELONGATION %	35.4
HOURS	66.7

AFTER MINIMUM TIME UNDER SPECIFIED STRESS, THE STRESS RUPTURE TEST WAS OVERLOADED IN INCREMENTS AS FOLLOWS:

TOTAL HOURS	STRESS KSI(MPA)
51	70.0 { 483)
65	75.0 { 517)

(T) RANSVERSE (L) ONGITUDINAL	L
YIELD STRENGTH, (0.20 %) KSI(MPA)	102.0 { 703)
TENSILE STRENGTH, KSI(MPA)	156.0 { 1076)
ELONGATION IN 1.00", %	22.0
REDUCTION OF AREA, %	46.0
HARDNESS , HBW	314.0

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CONTINUED ON NEXT PAGE

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CERTIFICATE OF TESTS
CERT. SERIAL# 000876659



CARPENTER

Carpenter Technology Corporation
101 West Bern Street, Reading, Pa. 19601
Tel: (610) 208-2000 (800) 338-4592

ABNAHMEPRUEFZEUGNIS

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07/31/13

CUSTOMER/BESTELLER/CLIENT

ALCOA FASTENING SYSTEMS
FULLERTON OPERATION
P O BOX 3001
FULLERTON , CA 92631

SELLER/VERKAUFER/VENDEUR PAGE 4 OF 4

CARPENTER TECHNOLOGY CORP

101 W. BERN STREET
READING , PA 19601

CUSTOMER ORDER NO./BESTELL.-NR./N° DE COMMANDE	CARPENTER NO./WFRKS-NR./N° DE REFERENCE INTERNE	DATE/DATUM/DATE	WEIGHT/GEWICHT/POTOS
220677353	LOS397401 L20371	07/31/13	3027.000

HEAT NUMBER / SCHMELZE-NR. / N° DE COULEE: 970057

MATERIAL HAS BEEN MELTED IN USA OR QUALIFYING COUNTRY TO DFARS REQUIREMENTS 252.225-7014 WITH ALTERNATE 1 FOR QUALIFYING COUNTRY 225.872.1, SUPERSEDED BY DFARS REQUIREMENTS DFARS 252.225-7008 AND 252.225-7009. THIS ORDER WAS MANUFACTURED IN ACCORDANCE WITH CARPENTER SPECIALTY ALLOYS OPERATIONS QUALITY PROGRAM MANUAL, REVISION 30 DATED 09/28/11.

CARPENTER'S QUALITY MANAGEMENT SYSTEM WAS REGISTERED AS OF NOVEMBER 24, 2010 TO THE REQUIREMENTS OF ISO 9001:2008 APPROVAL CERTIFICATE 10-1385R BY PERFORMANCE REVIEW INSTITUTE. THIS CERTIFICATE OF TEST IS TYPE 3.1 PREPARED IN ACCORDANCE WITH EN 10204 (DIN 50049). WE HEREBY CERTIFY THAT THE ABOVE TEST DATA ARE IN ACCORDANCE WITH THE PURCHASE ORDER AND SPECIFICATION REQUIREMENTS, AS DOCUMENTED IN THIS CERTIFICATE OF TESTS.

TEST METHODS ARE PER THE ASTM STANDARDS ON FILE AND IN EFFECT AT TIME OF ORDER ACCEPTANCE, STANDARD PRACTICES, OR AS AGREED UPON BETWEEN CARPENTER & CUSTOMER.

JASON M RAYMOND
ADMINISTRATOR - QUALITY
CARPENTER TECHNOLOGY CORPORATION

GPV*732104

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B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO23060

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
2	30	EA	MS17584C413		1356118	AVIBANK MPG.	84256		


Jason Lewis
Vice President of Quality

02/20/14

** DEARS ** ** CERT Q13-P **



AV BANK
AEROSTRUCTURES DIVISION, A **PCC COMPANY**

11500 SHERMAN WAY • NORTH HOLLYWOOD, CA 91605
PHONE: (818) 392-2100 • FAX: (818) 255-2094

No ozone depleting substances used in processes.

SHIPPER

DATE SHIPPED
06/05/13

CERTIFICATE OF CONFORMANCE

PAGE	OF	DATE ENTERED	ITEMS ORDERED
1	1	06/28/13	655679-8533

B 103866
I B/E AEROSPACE (M & M)
L P.O. BOX 025263
L 10000 N.W. 15TH TERRACE

T MIAMI, FL
TO USA 33102-5263

S B/E AEROSPACE CONSUMABLE MGMT
H 9835 NW 14TH ST
I P
T MIAMI, FL
TO USA 33172

CUSTOMER ORDER NO:				CONTRACT NUMBER		QUANTITY		RATING	ORDERED BY	REC'D BY	TERRIOTY NO
0PXN53									EDWARD	GLE	124
ITEM NO.	PKG	CERT	INV#	DD/200	PRIS/PKG	RECD	RESALE	ORTAX	TYPE OF INSPECTION	TERMS	FREIGHT
0	1	1	3	N	N	R				1/25 10 NET 30	NOHO / COLLECT
SHIPPED VIA											
FEDEX GROUND											

ITEM NO.	NO. SHIPPED	UNITS	PART NUMBER / DESCRIPTION				NO. BACKORDERED
001			FEDEX ACCT# 0331-0149-0 QAP 33.0 CLAUSES A,A.1,B,C,E,H,P,U,V APPLY *** 3 LOT MAX *** 750 E BLC4BA13S MS17984C413 SHIP#: 1 QTY : 750 LOT:1356118 AREA : NS AISLE : F SEC:20				0
002	1	L	270-CERT Q13-P CHEM & PHY CERTS 001 SHIP#: 1 QTY : 1 LOT: AREA : AISLE : SEC:				0
							DUE : SHELF

PULLED BY	SHIPPED BY	SHIP VIA	DATE SHIPPED	WAYBILL/OTHER INFO	NO. OF PKGS.	WEIGHT

We hereby certify that all materials used in the manufacture of parts covered by this report conform to the material specifications called for by the above purchase order. We further certify that the parts are manufactured in accordance with applicable drawings or specifications current on the date on which the order was placed. Test reports covering materials in these parts, and indicating conformance with applicable specifications, are on file and subject to examination. No ozone depleting substances were used in processes. Parts are mercury free of contamination.

WI-14-AMS-004 REV:NC

AVIBANK MFG., INC.

BY: *Sue Deors*
AUTHORIZED QUALITY CONTROL REPRESENTATIVE

** DEARS ** ** CERT Q13-P **



AVIBANK
AEROSTRUCTURES DIVISION, A PCC COMPANY

11500 SHERMAN WAY • NORTH HOLLYWOOD, CA 91605

PHONE: (818) 392-2100 • FAX: (818) 255-2094

No ozone depleting substances used in processes.

SHIPPER

DATE SHIPPED:
08/05/13

SALES ORDER NO.
1655679-8533

CERTIFICATE OF CONFORMANCE

PAGE	OF	DATE ENTERED
2	1	06/28/13

B 103866
 I B/E AEROSPACE (M & M)
 L P.O. BOX 025263
 L 10000 N.W. 15TH TERRACE
 T MIAMI, FL
 O USA 33102-5263

S B/E AEROSPACE CONSUMABLE MGMT
 H 9835 NW 14TH ST
 I P
 T MIAMI, FL
 O USA 33172

CUSTOMER ORDER NO.				CONTRACT NUMBER	RATING	ORDERED BY	REC'D BY TERRITORY NO.
OPXN53						EDWARD	GLE 124
PS	CENT	INV	DO TO PREVIOUS SALE READY NOT ON BACKORDER	TYPE OF INSPECTION	TERMS	FREIGHT	
0	1	1	3	N N R	1/2% 10 NET 30	NOHO/COLLECT	
SHIPPED VIA				FEDEX GROUND			

ITEM NO.	NO. SHIPPED	UNITS	PART NUMBER / DESCRIPTION		NO. BACKORDERED
			SEARCH	TO OUR VALUED CUSTOMERS A RETURN MATERIAL AUTHORIZATION (RMA) NUMBER IS REQUIRED FOR ALL PRODUCTS RETURNED TO AVIBANK TO REQUEST A RMA NUMBER CONTACT YOUR AVIBANK SALES ASSOCIATE AT 818/392-2100	SEARCH

THESE COMMODITIES WERE EXPORTED
FROM AVIBANK MFG., INC. IN
ACCORDANCE WITH EXPORT ADMINISTRATION
REGULATIONS OR INTERNATIONAL TRAFFIC
IN ARMS REGULATIONS. DIVERSION CONTRARY
TO U.S. LAW IS PROHIBITED.
COMPLIANT WITH DFARS 252.225.7014 ALT 1

PULLED BY	SHIPPED BY	SHIP VIA	DATE SHIPPED	WAYBILL/OTHER INFO	NO. OF PKGS.	WEIGHT
	30		8/5/13			

We hereby certify that all materials used in the manufacture of parts covered by this report conform to the material specifications called for by the above purchase order. We further certify that the parts are manufactured in accordance with applicable drawings or specifications current on the date on which the order was placed. Test reports covering materials in these parts, and indicating conformance with applicable specifications, are on file and subject to examination. No ozone depleting substances were used in processes. Parts are mercury free of contamination.

WI-14-AMS-004 REV:NC

AVIBANK MFG., INC.
 BY: *Mike Stone*
 AUTHORIZED QUALITY CONTROL REPRESENTATIVE



AV BANK
AEROSTRUCTURES DIVISION, A PCC COMPANY

11500 SHERMAN WAY • NORTH HOLLYWOOD, CA 91605
PHONE: (818) 392-2100 • FAX: (818) 255-2094

CERTIFIED TEST REPORT

1 of 1

CUSTOMER: B/E AEROSPACE (M & M)

SHOP ORDER NO./WORK ORDER NO.: 1356118

CUSTOMER P/N: MS17984C413

CUSTOMER P.O.: 0PXN53

QTY. SHIPPED: 750

AVIBANK P/N: BLC4BA13S RV. N

PART NAME: S/A STANDARD

PROCUREMENT SPEC: NAS1332

BODY WO.: 1355670 QTY. MFG'D: 750

PROCESS	PROCESSOR	TYPE/CLASS	SPECIFICATION
ANODIZE	JESSE'S PLATING, PACOIMA, CA.	II/2	MIL-A-8625 'F'
HEAT TREAT	AVIBANK MFG., INC., NO. HOLLYWOOD, CA.	CH900	AMS2759 'E'
HEAT TREAT	AVIBANK MFG., INC., NO. HOLLYWOOD, CA.	HRC 40 MIN	AMS2759 'E'
PASSIVATE	AVIBANK MFG., INC., NO. HOLLYWOOD, CA.	2	AMS2700 'E'

NO.	ROD BOLT TENSILE (LBS)	TORQUE (IN LBS)	RETAINING DEVICE TENSILE (LBS)	MAX SHEAR (LBS)
1.	N/A	N/A	242 NF	10,070
2.	N/A	N/A	240 NF	10,040
3.	N/A	N/A	244 NF	10,110
4.				
5.				
REQT.	N/A	MIN.	N/A MIN.	230 MIN. 9,200 MIN.

* BF = BALL HOLE FAILED. * TF = THREADS FAILED. * NF = NO FAILURE. ** (S) = SINGLE SHEAR. ** (D) = DOUBLE SHEAR.

OTHERS: THESE PARTS WERE LAB TESTED PER 'NAS' RQMTS AND FOUND ACCEPTABLE.
SALES ORDER NO. 655679-8533.

AVIBANK MFG., INC. CERTIFIES THAT THE PARTS LISTED ABOVE WERE MANUFACTURED IN COMPLIANCE WITH YOUR PURCHASE ORDER. ALL TEST AND INSPECTION REPORTS ARE ON FILE AT AVIBANK FOR VERIFICATION.

AUTHORIZED SIGNATURE:

Norma Castanaza
NORMA CASTANAZA Q.C. CLERK

WI-03-CTR-005 rev NC



DATE: 08/05/13

CERT REVIEW

MAIN LOT #

~~1356118~~

COMPONENT LOT #

~~1355670~~

NAME

~~BODY~~

CLERK: AV - NEOPAR METALS, LLC.

611 WEST LAMM ROAD
FREEPORT, IL 61032

An ISO 9001:2008 Registered Company

CERTIFICATE DATE: 4/30/13

CUSTOMER:

COPPER & BRASS
SALES

ORDER#: 198272

CUSTOMER PO#: 5400179861-R05

MATERIAL: 17-4PH ✓

DESCRIPTION: 265"

HEAT NUMBER: E121874

QTY. SHIPPED: 2,103 LBS

CONDITION: ANNEALED

PART#

CERT MAT. NO.

XSSRD05811

CHEMICAL COMPOSITION

C	Mn	Si	S	P	Ni	Cr	Mo	Other Elements
.013	.740	.339	.0280	.029	4.67	15.42	.140	✓Cu=.323 Co=.068 Ti=.001 Nb=.259 ✓ Al=.002 Br=.0015 Sn=.009 Ni=.0310 V=.0500 W=.020 As=.003 Ca=.0023 Ta=.002 Pb=.0002
✓	✓	✓	✓	✓	✓	✓	✓	

MECHANICAL VALUES

TENSILE (KSI)	YIELD (KSI)	ELONGATION (%)	REDUCTION OF AREA (%)	HARDNESS
134	126	14	69	271 HB

✓ H900 HT CAPABILITIES 900F FOR 1 HR AIR COOL

TENSILE (KSI)	YIELD (KSI)	ELONGATION (%)	REDUCTION OF AREA (%)	HARDNESS
191	174	12	63	403 HB

ADDITIONAL REMARKS:

This material meets the chemistry specifications for AMS 5643R, ASTM A564-04, ASTM A484-10, ASME-SA-564 CHEM & MECH MACRO & MICRO STRUCTURES OK PER AMS 5643, DELTA FERRITE 0.35%.

MATERIAL IS FREE FROM MERCURY CONTAMINATION EN10204 3.1.B
MELT ORIGIN: ENGLAND

MATERIAL IS MANUFACTURED IN THE UNITED STATES OF AMERICA

I hereby certify that this data is correct as contained in the records of this company.

QUALITY CONTROL REPRESENTATIVE:

Form# 7.9.0.0.4 Rev C

James P. Elliott-Quality Process Manager

D. C. Review,
Sig: *N. Mayr*
Date: *5/10/13*

From: ThyssenKrupp Materials NA

Cust. AVIBANK MFG INC

Del.: 2402471790

CatAr

CstOr 729445

Wgt.: 2,103.000 LB

Date 05/10/2013

01# 1343995

John. Jambotti



ALARD Machine Products
1629 West 132nd Street, Gardena, CA 90249-2005
Phone: (310) 323-4374
Fax: (310) 323-6031
www.alardmachine.com

AMP
10/2013

CERTIFICATE OF CONFORMANCE

CUSTOMER

Alibured Mfg

PURCHASE ORDER NO.

739831

PART NO.

16-4C REV. *AC*

BUYER

Carlos Tijerero

ALARD SHIPPER NO.

92626 QTY. 50 010,X

ALARD SALES ORDER NO. 21912-5 ALARD SHOP ORDER NO. 21912-3

This is to certify that articles delivered under this shipper conforms to all applicable drawings and specifications furnished with or referenced in the above order, except for materials supplied by purchaser. Chemical and /or physical test reports and other evidence of conformance with the specifications are on file and subject to examination for a period of 10 years from date of shipment.

During the manufacturing processes, tests and inspections, this product has not come in contact with mercury or any of it's compounds, nor with any mercury containing device employing a single boundary of containment without specific approval of the purchaser. This requirement has been passed on to all sub-contractors.

By:

[Signature]
AUTHORIZED ALARD REPRESENTATIVE

Date: 04-09-13

CERT REVIEW

MAIN LOT #

1356118

INSPECTOR

TITLE

COMPONENT LOT #

KB30070

NAME

SHOULDER RING

CLERK: GV NC DS

Form AL203-REV. "E" 1-23-08



Your preferred source of wire and strip

1901 N. Narragansett Ave. • Chicago, Illinois 60639

773/804.0404 • Fax 773/804.0408

www.industeel.com

An ISO 9001 Certified Company

01/29/13

ISW Order/Invoice Number: 146210-00

SOLD TO: A9990
AVIBANK MFG. CO.

SHIP TO: A9991
AVIBANK MFG. CO.
11500 SHERMAN WAY

P.O. BOX 9909
NO HOLLYWOOD CA 91609

NO. HOLLYWOOD, CA 91605

CUSTOMER PO: 737859

085017BT

.0850"17-7 PH STAINLESS COND C CNT CLS

WEIGHT: 560

HEAT NUMBER: E111057

CHEMISTRIES

C	Mn	P	S	Si	Cr	Ni	Al
.077	.880	.023	.001	.286	16.630	7.690	.890
Mo	Cu	N					
.260	.346	.019					

PHYSICAL PROPERTIES

TENSILE: 245935C 297882CH

TORSIONS:

ROCKWELL #1:
ROCKWELL #2:

BENDS:

YIELD STRENGTH: 000000C/000000CH

SALT SPRAY HOURS:

ELONGATION:

COATING WEIGHT:

REDUCTION OF AREA: MAIN LOT #

GRAIN SIZE:

CERT REVIEW

***** MERCURY FREE *****

*** SPECIFICATIONS

* 1356118

TARIFF: 7223.00

ASTM A313-10

COMPONENT LOT #

NAFTA: B

AMS 5678-F

KD30005

MELT: US UNITED STATES

NAME

ORIG: US UNITED STATES

RING

MILL: SIRI WIRE COMPANY

CLERK: GV NC DS

DFAR: Y

ROHS: Y

FEB 01 2013

AVB
51
INCP
LOT #1317386

Rey Domingo, Quality Control Manager

The values and specifications herein are passed through from the manufacturer directly to the customer.

Please see reverse side or www.industeel.com for all Terms and Conditions of Sale.

Material Properties Sheet 70403-MPS Version 1 Approved by BF 11/20/12

Certified Inspection Report

03/01/13
07:44:03

Alcos Inc.
Massena Operations
Park Avenue East, Massena, NY 13662



Customer
Bralco Metals

Customer P.O. No.
43-108226

Customer Part No.

Alcos Order No.
MMC-A5952-002

Govt. Contract No.

Ship To **Bralco Metals**
15090 Northam St
La Mirada, CA 90638

We hereby certify that the material covered in this report has been inspected in accordance with, and has been found to meet the applicable requirements described herein, including any specifications forming a part of the description, or as previously agreed to with customer and that samples representative of the material met the composition limits and have the mechanical properties shown on the face of this sheet. Manufactured under an ISO/TS 16949 registered quality management system.
Melted and manufactured in the USA.

Zhou Wang, Quality Assurance Manager

Date Shipped **03/01/13** Weight Shipped **961 lbs** Product **CFRB-SMS-ROD DIA. X 12 FT** BOL **000160946**
Alloy - Temper **2024-T351** Size **0.81250 IN** Shape **DIA** Config **12 FT** QRR

Specifications:

AMS 4120R (Except Marking)
AMS-QQA-225/6A
Material conforms to T4 requirements
QQ-A-225/6E (1)
ASTM B211-12E1

Product produced and marked to the requirements of AMS-QQ-A-225/6 also meets the requirements of QQ-A-225/6.
Product produced and marked to the requirements of QQ-A-225/6 also meets the requirements of AMS-QQ-A-225/6.

THIS METAL WAS NOT EXPOSED TO MERCURY OR MERCURY CONTAINING COMPOUNDS WHILE IN THE POSSESSION OF BRALCO METALS

APR 05 2013

AVIBANK
APR 05 2013

LOT #1333503

Order No.: 343059
Part: 1140-11
Finalized

PO: 41008
Part: 1140-11
Finalized

Sold to: AVIBANK MFG., INC.
TR clerk signature:

TEST REQUIREMENTS	Test	Test	Test	Test	Test	Test	Test	Test	Test
	U.T.S.	T.Y.S.	%Elong						
Max:									
Min:	62.0	45.0	10.0						

Test Results Lot / Work Order	No. of Tests	Test	Test	Test	Test	Test	Test	Test	Test
		U.T.S.	T.Y.S.	%Elong					
MA20126199	7	Max:	70.7	55.0	23.0				
		Min:	69.1	53.0	21.0				

When 2 or more tests per lot are made, the highest and lowest values are reported.
Analysis obtained from one or more samples in this lot.

TEST ABBREVIATIONS	U.T.S.	Ultimate Tensile Strength KSI	T.Y.S.	Tensile Yield Strength KSI	%Elong	Elongation % in 2"
--------------------	--------	-------------------------------	--------	----------------------------	--------	--------------------

Aluminum Association Chemical Composition Limits (In Weight %)

	%Si	%Fe	%Cu	%Mn	%Mg	%Cr	%Zn	%Ti	%Others	%Others	%Al			
ALLOY	MAX	0.50	0.50	4.9	0.9	1.8	0.10	0.25	0.15	0.05	0.15	<i>Rem</i>		
2024	MIN			3.8	0.30	1.2			<i>Each</i>	<i>Total</i>				

Actual Started Chemistry

LOT/WORK ORDER	%Si	%Fe	%Cu	%Mn	%Mg	%Cr	%Zn	%Ti	%Oe	%Ot	%Al		
MA20126199	MAX	0.08	0.24	4.7	0.64	1.5	0.01	0.11	0.02	<i>LT 0.05</i>	<i>LT 0.15</i>	<i>Rem</i>	
	MIN	0.07	0.23	4.4	0.63	1.4	0.01	0.04	0.02				

NOTES:

Mercury is not a normal contaminant in aluminum alloys and neither it nor any of its compounds are used in the manufacture of our product.

This alloy meets the requirements of EU 2002/95/EC (RoHS) and EU 2000/53/EC for lead, mercury, cadmium and hexavalent chromium.

CERT REVIEW

MAIN LOT #

135618

COMPONENT LOT #

KB20435

NAME

BUTTON HANDLE

CLERK: GV NC DS

Page 1

CERTIFICATE OF CONFORMANCE

JESSE'S PLATING

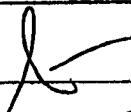
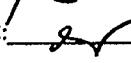
12229 MONTAGUE ST.
PACOIMA, CA 91331
818-899-4600 VOICE
818-899-0771 FAX

Date	Invoice #
7/2/2013	53094

Bill To
AVIBANK MFG INC 11500 SHERMAN WAY NORTH HOLLYWOOD CA 91605

AS9100 & ISO.9001 CERTIFIED

P.O. No.	Terms	Due Date	Rep	Ship Date	Ship Via	Project
743185	2% 15 Net 30	8/1/2013	JV	7/2/2013	Cust. Pickp	
Qty	Item	Description				
5.010	5-4AB MIL-A-8625F	REV P BUTTON HANDLE ANODIZE PER MIL-A-8625F TYPE II CLASS 2 BLACK				
CERT REVIEW MAIN LOT #: <u>1356148</u> COMPONENT LOT #: <u>KBZ0435</u> NAME: <u>Jorge A. Villagran</u> CLERK: <u>GV</u> <u>NCP</u> <u>DS</u>		 Q. C. Review Sig. <u>Nancy</u> Date <u>7/3/13</u>				
WE HEREBY CERTIFY THE ABOVE PARTS ARE PROCESSED IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. TEST REPORTS ARE ON FILE. ANY DISCREPANCY MUST BE REPORTED WITHIN 24 HOURS.						

BY:  JORGE A VILLAGRAN
 TITLE:  Q.A. MANAGER
 JP

3



Linear Motion. Optimized.

SHIP TO:
AVIBANK MFG INC
11500 SHERMAN WAY
NORTH HOLLYWOOD CA 91605
United States

CERTIFICATION OF CONFORMANCE		
DELIVERY NAME: 2819068	DATE PRINTED: 22-JUL-2013	PAGE: 1 of 1
SHIP FROM: ABEK LLC 492 Birch Street Bristol CT 06010 United States		
Tel: (860) 314-3921 Fax: (860) 314-3942		
BILL TO: AVIBANK MFG INC 11500 SHERMAN WAY NORTH HOLLYWOOD CA 91605 United States		

PICK-UP DATE: 22-JUL-2013	SHIP METHOD: UPS-Air-Ref Next Day	FREIGHT TERMS: COLLECT - FROM ORIGIN	FSCM:					
DELIVERY TERMS EXWORKS FACTORY	TAX NAME: EXEMPT	CUSTOMER TAX NUMBER:	WAYBILL: 1Z0176470162706506					
SHIPPING INSTRUCTIONS: ACCT# 60X10X		TAG NUMBER/REF:						
ITEM NUMBER	REFERENCE ITEM	ITEM DESCRIPTION	QTY ORDERED	UOM	QTY ORDERED	QTY SHIPPED		
SS0078121CXXXDF	SS0078121CXXXDF	5/64 440C GRADE 100 DFAR - SS0078121CXXXDF	741483	1701365	1.2	MPC	90.02	48.265
COUNTRY OF ORIGIN: United States ****EAR99****		Heat Number 548226		Hardness Test HRc		Hardness 60-62		
Lot Number L0012469		Quantity 48.265						
Material meets DFAR 252.225-7009:7014. Material carts meet ASTM F-2216. Material meets ASTM A276, AMS QQ-S 783 and AMS 5630. ✓ Passivation meets SS8-35 and AMS 2700 Heat Treat meets SS9213 and AMS 2759/5 Country of Origin (Mfg.): USA Country of Melt (Matl.): USA								
CERT REVIEW MAIN LOT #: <u>135418</u> COMPONENT LOT #: <u>1340588</u> NAME: <u>BALL</u> CLERK: GV NC DS								
	NUMBER OF PACKAGES 1	GROSS WEIGHT 4.0 LB	VOLUME					

THE UNDERSIGNED, INDIVIDUALLY, AND AS THE AUTHORIZED REPRESENTATIVE OF THOMSON INDUSTRIES INC., WARRANTS AND REPRESENTS THAT; ALL THE INFORMATION SUPPLIED ABOVE IS TRUE AND ACCURATE; THE MATERIAL COVERED BY THIS CERTIFICATION CONFORMS TO ALL CONTRACT REQUIREMENTS (INCLUDING BUT NOT LIMITED TO THE DRAWING AND SPECIFICATIONS); THE INSPECTION AND THE ANALYSIS HEREIN ARE TRUE AND ACCURATE.

These commodities if being exported from the United States must be exported in accordance with the Export Administration Regulations. Diversion contrary to U.S. Law is prohibited.

QUALITY ASSURANCE MANAGER AUTHORIZED SIGNATURE

AVE
26
TN SP

CERTIFICATE OF TESTS ABNAHMEPRUEFZEUGNIS CERTIFICAT DE CONTROLE

CERT SERIAL# 000564343

**CARPENTER**

Carpenter Technology Corporation
101 West Bern Street, Reading, Pa. 19601
Tel: (610) 268-2800 (800) 338-4592

• THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A PELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47.
 • THE VALUES AND OTHER TECHNICAL DATA REPRESENT THE RESULTS OF ANALYSIS AND TESTS MADE ON SAMPLES COLLECTED FROM THE TOTAL LOT. ORIGINAL DATA RECORDS CAN BE TRACED BY REFERENCE TO THE CARPENTER ORDER NUMBER.
 • MATERIAL IS MANUFACTURED FREE FROM MERCURY, RADON, ALPHA AND GAMMA SOURCE CONTAMINATION.
 • THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF CARPENTER TECHNOLOGY CORPORATION.

01/19/10
CUSTOMER/BESTELLER / CLIENT

SELLER/VERKAUFER/VENDEUR PAGE 1 OF 2

ABBOTT BALL COMPANY
MIKE CHUBET MTLS MGR
RAILROAD AVENUE
WEST HARTFORD, CT 06110

ALN

CUSTOMER ORDER NO/BESTELL-NR./N° DE COMMANDE	CARPENTER NUMBER-NR./N° DE REFERENCE INTERNE	DATE/DATUM/DATE	WEIGHT/GEWICHT/Poids
213280	W49B41	09/11/06	659

HEAT NUMBER / SCHMELZE-NR. / N° DE COULEE 548226

PRODUCT DESCRIPTION: CONSUMET TYPE 440C BEARING OVAL HOT DRAWN SPHERODIZED PRECOAT

SPECIFICATION: AMS 5618 REV G (05/06)
 XAMS-00-S-7638 (08/06)
 XAMS 5880 REV C (05/06)
 XAMS 5630 REV J (10/07)

SIZE 0.075000 IN. (1.90 MM) RD WIRE INGOT 3

PRIMARY HEAT CHEMISTRY(WT%): (TEST METHOD IS SHOWN IN PARENTHESIS)

C (COM)	MN (XRF)	SI (XRF)	P (XRF)	S (COM)	CR (XRF)
1.03	0.40	0.70	0.017	LT .00	16.97
NI (XRF)	MO (XRF)	CU (XRF)			
0.15	0.44	0.04			

MACROETCH: TESTED TO ASTM-A-684: MAXIMUM VALUES ARE 1A. 2A. 3A. 4A

TENSILE AS SHIPPED. KSI(MPA) 110.0(758)

MAX QUENCH HARDNESS. HRC - 61 - 1925 F(1052 C) 30 MN OIL TREAT

INCLUSION RATING - ASTM E45 METHOD D

ID	THIN	HEAVY	THIN	HEAVY	THIN	HEAVY	THIN	HEAVY
3X	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

FRACTURE GRAIN SIZE: 8

CARBIDE SEGREGATION - FREE FROM EXCESSIVE SEG (VILELLAS)

DECARB - NONE (VILELLAS)

MAX QUENCH HARDNESS. HRC - 61 - 1875 F(1024 C) 30 MN AIR COOL

1/23/13
DFARS OK

AVB
28
INSP

CONTINUED ON NEXT PAGE

CERTIFICATE OF TESTS ABNAHMEPRUEFZEUGNIS CERTIFICAT DE CONTROLE

CERT SERIAL# 000564343



Carpenter Technology Corporation
101 West Bern Street, Reading, Pa. 19601
Tel: (610) 268-2800 (800) 338-4592

- THE RECORDING OF FALSE, FRAUDULENT OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47.
- THE VALUES AND OTHER TECHNICAL DATA REPRESENT THE RESULTS OF ANALYSIS AND TESTS MADE ON SAMPLES COLLECTED FROM THE TOTAL LOT. ORIGINAL DATA RECEIVED CAN BE TRACED BY REFERENCE TO THE CARPENTER ORDER NUMBER.
- MATERIAL IS MANUFACTURED FREE FROM NEONIUM, RADIUM, ALUMINA AND GARNIA SOURCE CONTAMINATION.
- THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF CARPENTER TECHNOLOGY CORPORATION.

01/19/10
CUSTOMER/BESTELLER / CLIENT

SELLER/VERKAUFER/VENDEUR PAGE 2 OF 2

ABBOTT BALL COMPANY
MIKE CHUBET MTL'S MGR
RAILROAD AVENUE
WEST HARTFORD, CT 06110

ALN

CUSTOMER ORDER NO/BESTELL-NR./N° DE COMMANDE	CARPENTER NUMBER/NR./N° DE REFERENCE INTERNE	DATE/DATUM/DATE	WEIGHT/GEWICHT/Poids
213280	W49B41	09/11/06	659

HEAT NUMBER / SCHMELZE-NR. / N° DE COULEE 548226
BILLET CHECK CHEMISTRY (WT%):

3A (TOP)	C	: .06
3X (BOTTOM)		: .04

MATERIAL PRODUCED ON THIS ORDER WAS MELTED AND MANUFACTURED IN THE U.S.A.
MATERIAL HAS BEEN MELTED IN USA OR QUALIFYING COUNTRY TO DFARS REQUIREMENTS 252.225-7014 WITH ALTERNATE I FOR QUALIFYING COUNTRY 225.8721.
CARPENTER'S QUALITY MANAGEMENT SYSTEM WAS REGISTERED AS OF NOVEMBER 24, 2007 TO THE REQUIREMENTS OF ISO 9001:2000 APPROVAL CERTIFICATE 87-0869 BY PERFORMANCE REVIEW INSTITUTE. CERTIFICATE OF TEST IS PREPARED IN ACCORDANCE WITH PARAGRAPH 3.1 OF EN 10204 (DIN 50849). WE HEREBY CERTIFY THAT THE ABOVE TEST DATA ARE IN ACCORDANCE WITH THE PURCHASE ORDER AND SPECIFICATION REQUIREMENTS.

DATE REVISED: 01/19/10 OFANA KISSLING
MET RELEASE/REQUIREMENTS ANALYST
CARPENTER TECHNOLOGY CORPORATION

1/23/13
DFARS
OK

AVB
1-1

Ofana M. Kissling

CERT REVIEW

MAIN LOT #

135618

COMPONENT LOT #

1355671

NAME

SPINDLE

CLERK: GV NC DS

TRI STAR METALS, LLC.

1201 S. ADAMS AVE.

FREEPORT, IL 61032

An ISO 9001:2008 Registered Company

CERTIFICATE DATE:	3/6/13	CUSTOMER:	COPPER & BRASS SALES
ORDER#:	194933	CUSTOMER PO#:	5400169032-R05
MATERIAL:	17-4PH	DESCRIPTION:	.130" X 12"
HEAT NUMBER:	E120543	QTY. SHIPPED:	863 LBS
CONDITION:	ANNEALED	PART#:	XSSRD05808

CHEMICAL COMPOSITION

C	Mn	Si	S	P	Ni	Cr	Mo	Other Elements
0.0160	.7700	.3560	.0260	.0250	4.6900	15.4500	.2500	Cu=.3590 Co=.0600 Ti=.0050 Nb=.2740 Al=.0030 B=.0015 Sn=.0140 N=.0260 V=.0700 W=.0200 As=.0090 Ca=.0020 Ta=.0010 Pb=.0002

MECHANICAL VALUES

TENSILE (KSI)	YIELD (KSI)	ELONGATION (%)	REDUCTION OF AREA (%)	HARDNESS
143	125	9	63	286 HB

H900 AFTER HEAT TREAT CAPABILITIES 900F 1 HR AIR COOL

TENSILE (KSI)	YIELD (KSI)	ELONGATION (%)	REDUCTION OF AREA (%)	HARDNESS
211	197	17	48	429 HB

ADDITIONAL REMARKS:

This material meets the chemistry specifications for: ASTM A564-04, RoHS COMPLIANT,
SAE AMS 5643R. DFARS COMPLIANT.

MATERIAL IS FREE FROM MERCURY CONTAMINATION. EN10204 3.1.B
MELT ORIGIN: ENGLAND

MATERIAL IS MANUFACTURED IN THE UNITED STATES OF AMERICA

I hereby certify that this data is correct as contained in the records of this company.



QUALITY CONTROL REPRESENTATIVE:

Form# 7.9.0.0.4 Rev C

James P. Elliott - Quality Process Manager

 APR 20 2013

LOT #1337628

From: ThyssenKrupp Materials NA

Cust. AVIBANK MFG INC

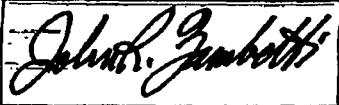
Del.: 2402421035

CstAr

CstOr 729445

Wgt.: 269.000 LB

Date 04/13/2013



Outokumpu Stainless Ltd.
ASR Rod Mill
Stevenson Road
Sheffield, S9 3XG
Telephone: +44 (0) 114 242 1124
Fax: +44 (0) 114 242 2162



PrOf-Nr
Test certificate No
No du certificat

73776

In Accordance With EN 10204.3.1

Rechnungs-Nr Invoice/Cos No No de facture	Bestell-Nr Customer Order No No de commande client	NORM 1714PH(630) Rev 08-13-11 (UNS S17400) COND. A	SPECIFICATION NORME
---	--	---	------------------------

ADDRESS	Waren-Nr Part No No de commerce entreprise	AV196621/02
Tri Star Metals LLC 611 W.Lamm Rd Freeport, Illinoie 61032 USA 61032	Lieferbestell-Nr Supply Number Nº de livraison	SOFTENED AND DESCALED
	Produkt Article Produit	5.00 mm Round
	Stahlart Steel Type Type d'acier	3 rod coils for 2.016t
	GuV-Nr Cast No Nº de Coulée	E120543

Schmelzanalyse												Cast Analysis				Analyses de Coulée			
%C	%Si	%Mn	%P	%S	%Cr	%Mo	%Ni	%Ti	%Nb	%Cu	%Al	%N	%O	%S	%Pb	%As	%Te	%Sb	
0.0160	0.3580	0.7700	0.0260	0.0260	15.4500	0.2500	4.6800	0.0050	0.2740	0.0030	0.0015								
0.0800	3.3580	0.0140	0.0260	0.0700	0.0200	0.0090	0.0020	0.0010	0.0002										

Mech und phys Eigenschaften			Mechanical and Physical Properties			Caractéristiques mécanique			
0.2%PS kPSI	1.0%PS kPSI	UTS kPSI	RA%	Korngröße Grain Size Taille de grain	Dehnung % Elongation % Allongement %	Härte Härte Hardness Hb Durée			
113.865	133.290	136.916	68.3	7.5 7.5	3.5	326.00			
Decarb	Max	Batch Average	Batch Percentage	Cleaness ABCD<1			Intercrystalline Corrosion Test		

Additional Information Delta Ferrite Content - 0.04% H900 results- Rp0.2 197kpsi Rm 211kpsi A4D 16.7%, RoA 47.9% HB 428 Free from known Mercury or Radium Contamination Material free from welds Melting Practice- EAF and AOD Solution annealed at 1900F +/- 25 for 1.5Hrs Material melted and rolled in Sheffield, England by Outokumpu Stainless Ltd. Ultrasonic to AMS2630 & Magneto Particle to AMS 2303 both Pass No Chi or Sigma phase at 100x per ASTM E407 Macro and Micro structure OK per AMS 6843 Chemistry, melt practice, material integrity and capability of	BHSQ Manager Rob Charlesworth Datum Date 03/07/2012
---	---

Finally evaluated by a professional engineer to ensure that the material has not suffered any significant loss of mechanical properties due to heat treatment or any other process. After evaluation it was found that the material has not suffered any significant loss of mechanical properties due to heat treatment or any other process. Any reduction in strength is acceptable if the original mechanical properties can be restored by heat treatment.

Verwertet schließlich von einem professionellen Ingenieur, um sicherzustellen, dass das Material nicht durch einen thermischen Prozess oder irgendeinen anderen Prozess eine signifikante Verlust der mechanischen Eigenschaften erlitten hat. Nach der Bewertung wurde festgestellt, dass das Material keine signifikante Verlust der mechanischen Eigenschaften durch einen thermischen Prozess oder irgendeinen anderen Prozess erlitten hat. Eine Reduzierung der Stärke ist akzeptabel, wenn die ursprünglichen mechanischen Eigenschaften wiederhergestellt werden können durch Wärmebehandlung.

Généralement évalué par un ingénieur professionnel pour assurer que le matériau n'a pas souffert d'une perte importante des propriétés mécaniques en raison d'un traitement thermique ou d'un autre processus. Après l'évaluation, il a été trouvé que le matériau n'a pas souffert d'une perte importante des propriétés mécaniques en raison d'un traitement thermique ou d'un autre processus. Une réduction de la force est acceptable si les propriétés mécaniques initiales peuvent être restaurées par un traitement thermique.

FEB 51 APR 2013

LOT #1337628

From: ThyssenKrupp Materials NA

Cust. AVIBANK MFG INC

Del.: 2402421035

CstAr

CstOr 729445

Wgt.: 269.000 LB

Date 04/13/2013

John R. Gambetta

Order No: 3533554
Time 17:47:03



FRY STEEL COMPANY
Registered ISO 9001
13325 MOLETTE ST.
SANTA FE SPRINGS, CA 90670
(562) 802-2721

A08040
Cust. NO.: 737614
P.O. NO.:

CERTIFICATE OF COMPLIANCE

AVIBANK MFG INC
ATTN: ACCTS PAYABLE
P O BOX 9909
NORTH HOLLYWOOD CA 91609-1909

AVIBANK MFG
11500 SHERMAN WAY
***RECEIVING CLOSED 11:30-12**
NORTH HOLLYWOOD CA 91605-5827

01/18/13

QTY	-DESCRIPTION--	-ITEM CODE--	--HEAT NUMBER--
	CF 2024 T4 QQA 225/6 RED		
175	BARS 5/16"RD 12'RL	84030	12062021-1
	CF 2024 T351 QQA 225/6 RED		
38	BARS 7/8"RD 12'RL	84070	121008-3-0290
3	BARS 1-1/16"RD 12'RL	84085	121009-3-0304
3	BARS 1-3/16"RD 12'RL	84095	149637
1	REM 1 X 1-1/2"FL 35"LG	88245	9341-01B

NOTICE

A COPY OF THE ORIGINAL MILL CERTIFICATION IS ATTACHED*

CHEMICALS & PHYSICALS ARE REPORTED THAT WILL MEET THE SPECIFICATIONS SHOWN ON THE CERTIFICATE.
EXCEPTIONS TO SPECIFICATIONS SHOULD BE SHOWN ON THE CERTIFICATION.

AUTOMATIC EXCEPTIONS TO THE SPECS LISTED ARE: LINE MARKING AND INSPECTION(I.E. MAG., SONIC, ETC.)

WE SUGGEST CONSULTING AN EXPERT ABOUT RELATED INSPECTION, PRIOR TO ALTERING THE MATERIAL FROM THE AS SHIPPED/RECEIVED CONDITION. "DEFECT FREE" MATERIAL CAN NOT BE GUARANTEED WITHOUT PRIOR INSPECTION APPROPRIATE TO APPLICATION.

NO WELD REPAIR HAS BEEN PERFORMED AND THIS MATERIAL IS FREE FROM MERCURY AND RADIUM
CONTAMINATION AT TIME OF SHIPMENT

The willful recording of false, fictitious or fraudulent statements on this document may result as a felony under federal statutes.
*WHEN APPLICABLE

CERT REVIEW

MAIN LOT #

135618

COMPONENT LOT #

KB30017

NAME

BUTTON

CLERK: GV NC DS

AVB
51
IMP

LOT #1315418

Chip Sandoval

CHIP SANDOVAL - Q.C. MANAGER

JAN 24 2013

/2062021-1

元生實業股份有限公司

YUAN-SHENG ALUMINIUM MFG. CORP

www.ysal.com.twNo. 58 Lane 1274, Chung Cheng Rd., Chung Li, Taoyuan, Taiwan, R.O.C.
TEL:886-3-4278991~6 / FAX:886-3-4222830 / E-mail:tw.qc@ysal.com.tw

CERTIFICATE OF QUALITY / 品質保證書

Sold by / 供應商: Yuan-Sheng Aluminium Mfg. Corp. / 元生實業
 Ship to / 客戶: TUSKER INTERNATIONAL TRADING FRY STEEL
 Order No. / 訂單編號: 47129-1
 Material / 材質: 2024-T4 5/16"RD · 145"
 Quantity / 數量: 2115 PCS
 Lot No. / 批號: 12062021-1

Specification / 標準: ASTM-B211 REV 03,AMS-4120 REV R,QQ-A-225/6 REV E,AMS-QQ-A-225/6 REV A

No./項目	Items / 名稱	Requirement / 實測要求	Unit / 單位
1	Dimension / 規格:	0.313 - 145	in
2	Tensile Strength / 抗拉:	>62	ksi
3	Yield Strength / 降伏:	>45	ksi
4	Elongation / 引長:	>10	%
5	Hardness / 硬度:	>67	HRB
6	Chemical composition / 成分:		
		Others Others	
	Si Fe Cu Mn Mg Cr Zn Ti	Max Total AL	
	0.50 0.50 3.8-4.9 0.3-0.9 1.2-1.8 0.1 0.25 0.15	0.05 0.15 rem	

Quality checked / 品檢:

No./項目	Items / 名稱	Measurement result / 實測結果	Unit / 單位
1	Dimension / 規格:	0.313 - 145	in
2	Tensile Strength / 抗拉:	68.73	ksi
3	Yield Strength / 降伏:	49.97	ksi
4	Elongation / 引長:	18.93	%
5	Hardness / 硬度:	69.9	HRB
6	Chemical composition / 成分:	OK	
		Others Others	
	Si Fe Cu Mn Mg Cr Zn Ti	Max Total AL	
	0.3000 0.2922 4.2030 0.5880 1.5830 0.0063 0.1465 0.1035	0.05 0.15 92.8	

Checked by / 測量:楊青輝

Approved by / 驗證:楊銘達

Company stamp / 公司印章

Date / 日期 AUG. 15, 2012

Date / 日期 AUG. 15, 2012

Signature / 簽名:

Signature / 簽名:



JAN 24 2013

This certificate is only validated when it is stamped / 品質保證書無公司蓋章無效

品質記錄編號: QP-009-08

FRY STEEL CO. CERTIFIES THAT THIS IS
 A TRUE COPY OF THE ORIGINAL MILL TEST
 REPORT NOW ON FILE
 RECEIVED AND INSPECTED

SEP 11 2012

LOT #1315418

By
 CHIP BANDOVAL - Q.C. MANAGER



CERTIFICATE OF CONFORMANCE

JESSE'S PLATING

12229 MONTAGUE ST.
PACOIMA, CA 91331
818-899-4600 VOICE
818-899-0771 FAX

Date	Invoice #
5/14/2013	52378

Bill To
AVIBANK MFG INC 11500 SHERMAN WAY NORTH HOLLYWOOD CA 91605

AS9100 & ISO 9001 CERTIFIED

P.O. No.	Terms	Due Date	Rep	Ship Date	Ship Via	Project	
742610	2% 15 Net 30	6/13/2013	JV	5/14/2013	Cust. Pickp		
Qty	Item	Description					
5.010	73-4AB MIL-A-8625F	REV D BUTTON ANODIZE PER MIL-A-8625F TYPE II, CLASS 2 BLUE					
CERT REVIEW		 Q. C. Review Sig. <i>Nancy</i> Date 5/15/13					
MAIN LOT #	13561L8						
COMPONENT LOT #	KD30017						
NAME	BUTTON						
CLERK: GV	NC	DS					

WE HEREBY CERTIFY THE ABOVE PARTS ARE PROCESSED IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. TEST REPORTS ARE ON FILE. ANY DISCREPANCY MUST BE REPORTED WITHIN 24 HOURS.

BY:
JORGE A. VILLAGRAN
 TITLE:
Q.A. MANAGER

Fairbanks Wire Corp

260 Industrial Drive
Hampshire, IL 60140
847-683-2600

CERTIFICATION

We certify the following information for the purchaser indicated:

PURCHASER: Avibank Mfg Inc

MATERIAL: Type 17-7PH Stainless Steel Wire
Spring temper
Non metallic, soap coated finish

SIZE: 0.0180 ^{+0.0003} _{-0.0003}

PURCHASER'S ORDER NUMBER: 737877

SPECIFICATION NUMBER: AMS 5678F

NO. COILS & NET WEIGHT: 1x Spools
27 Lbs.

HEAT NUMBER: E120255

TENSILE: 282751 PSI

DFARS Melt:England Mill:USA Cond C:282,751psi
CH900:335,340psi Mercury free

ANALYSIS:

C	Mn	P	S	Si	Cr	Ni	Mo	N	Cu
0.085	0.86	0.027	0.001	0.298	16.63	7.71	0.16	0.02	0.245

CERT REVIEW

MAIN LOT #

1356118

COMPONENT LOT #

KB30031

NAME

SPRING

CLERK: GV NC DS

AI

0.861

Lt H

MAR 08 2013

Murt Holz
Plant Manager
Fairbanks Wire Corporation
2/27/2013



LOT#1325904

Qutekumpu Metals Ltd.
ABF Red Ash
Silverton Road
Sheffield, S9 8TC
Telephone: +44 (0) 114 242 1124
Fax: +44 (0) 114 242 2182

**QUTEKUMP
U**

PCT-Nr
Test certificate No
No du certificat
In Accordance With EN 10204-5.1

72897

Customer Order No
Nº de commande client

Rechnungs-Nr Invoice/Credit No Nº de facture	Beschreibung Customer Order No Nº de commande client	NORM 17-7-PRH / A126 091 5500 17 Rods ST	SPECIFICATION AV10204-401	NORME SOFTENED AND DESCALED 9.30 mm Round 8 rods coils for 8.2581 E1202235																																												
ADDRESS																																																
Rachdungruppe-Nr Invoice/Credit No Nº de facture																																																
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Interpretation Correlation Test																																																
Additional Information																																																
Chemistry to Meet A126 090 and A126 091 Material free from known mercury, radium, or asbestos particles contamination Material melted and refined in Sheffield, England by Qutekumpu Sheffield Ltd.																																																
Technical Manager																																																
 T. Clarke Date: 22/03/2012																																																
The document was generated and signed electronically by the Quality System This document was generated and signed electronically by the Quality System This document was generated and signed electronically by the Quality System This document was generated and signed electronically by the Quality System																																																

116Z

MAR 08 2013

LOT #1325904





B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO23060

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
1	200	EA	MS27039-08-07		52995	LPC INDUSTRIES	62384		


Jason Lewis
Vice President of Quality

02/20/14



LFC industries

A Division of RKR Technologies, LTD
manufacturer of precision aerospace fasteners

1221 Corporate Dr. W • P. O. Box 5982
Arlington, Texas 76006 (817) 640-1322

B/E Aerospace, Inc. - Consumables Management
Self Release. Date: 11-19-13
Signature and Stamp:

Elinor Gruber



SHIPPING REPORT

52995

PRODUCTION ORDER # 52995
COUNTRY OF ORIGIN: USA

S H T O P

B/E AEROSPACE, INC.
CONSUMABLES MANAGEMENT
9835 N.W. 14TH ST.
MIAMI, FL 33172

SHIPPING METHOD	FedEx FRT
PAID	COLLECT <input checked="" type="checkbox"/>
ORDER NO.	OMJF71
ITEM NO.	MS27039-0807
ITEM #	1
QTY	3
AMT	250000
SHIP TO QTY	+0-5%
DATE DUE	10-15-2013

RETURN OF ANY MERCHANDISE LISTED HEREON WILL NOT BE ACCEPTED WITHOUT PRIOR AUTHORIZATION

CERTIFICATE OF CONFORMANCE
THE MATERIALS, PROCESSES AND PARTS FURNISHED WERE PRODUCED IN ACCORDANCE WITH APPLICABLE SPECIFICATION REQUIREMENTS, AND TEST REPORTS INDICATING CONFORMANCE ARE ON FILE SUBJECT TO EXAMINATION. OUR Q.C. INSPECTION SYSTEM CONFORMS TO ISO 9,001.

Elinor Gruber

SIGNED

ECCN: EAR99, SCHEDULE B #7318.15.2000

PARTIAL

COMPLETE

QTY SHIPPED

250000

QTY CONTAINERS:

35

LBS. PER CONTAINER

3,988.12

GROSS WEIGHT

1008.81

PCS USED TO ESTABLISH WT.

50

TARE WEIGHT

36.75

NFT WEIGHT

972.06

SHIPPING CLERK:

RH

DATE

11-19-13

CONSIGNEE SIGNATURE:

DATE

LFC INDUSTRIES, DIV. OF RKR TECHNOLOGIES LTD.
 1221 CORPORATE DR. W., ARLINGTON, TX 76006
 (817) 640-1322 FAX (817) 652-1566

LFC IND. CAGE CODE # 62384, CERTIFICATION - FASTENERS IN THIS LOT WERE
 MANUFACTURED, PROCESSED AND INSPECTED IN ONE RUN PER APPLICABLE
 DRAWING, PROCUREMENT SPECIFICATION, ISO9001:2008, AND AS9100C.

PART #	REVISION	LOT #	CUSTOMER	PO #					
MS27039-0807	3	52995	B/E AEROSPACE	0MJF71					
QUANTITY	PROCUREMENT SPECIFICATION	HEAT TREAT SPECIFICATION	DESCRIPTION						
250000	NASM7839 REV-1	AMS-2759/1	SCREW, PAN HEAD						
FINISH TYPE	FINISH SPECIFICATION	BAKE							
TYII CL2	AMS-QQ-P-416C	N/A	CROSS RECESS						
THREAD SIZE	THREAD SPECIFICATION		HARDNESS REQUIRED	HARDNESS ACTUAL AVERAGE					
8-32 UNC3A	H28/2		RC 26-32	RC 29					
NDT SAMPLE SIZE	NDT SPECIFICATION	NDT ACCEPT	NDT REJECT	LOCKING ELEMENT SPECIFICATION					
N/A	N/A	N/A	N/A	N/A					
MAGNETIC PERMEABILITY SAMPLE SIZE	PERMEABILITY ACCEPT	PERMEABILITY REJECT							
N/A	N/A	N/A							
RECESS TORQ SAMPLE SIZE	MINIMUM TORQ REQUIRED	TORQ END LOAD	TORQ ACCEPT	TORQ REJECT					
N/A	N/A	N/A	N/A	N/A					
CHEMICAL COMPOSITION ON CERTIFIED MILL TEST REPORT									
MILL HEAT #	MATERIAL SPECIFICATION	MATERIAL GRADE	SUPPLIER						
10224350	AMS6322N	8740	WIRETECH						
C	Mn	P	S	Si	Ni	Cr	Mo	Cu	V
.40	.86	.009	.005	.250	.41	.54	.22	.08	
B	Ti	Al	Co	Pb	Fe	Sn	Zn	N	Mg
TENSILE SAMPLE SIZE	TENSILE STRENGTH REQUIRED			DOUBLE SHEAR SAMPLE SIZE	D. SHEAR STRENGTH REQUIRED				
32	1750#			N/A					
T1	2160	T12	2160	T23	2160	S1	S12	S23	
T2	2160	T13	2160	T24	2140	S2	S13	S24	
T3	2160	T14	2160	T25	2140	S3	S14	S25	
T4	2160	T15	2140	T26	2140	S4	S15	S26	
T5	2140	T16	2160	T27	2160	S5	S16	S27	
T6	2140	T17	2140	T28	2160	S6	S17	S28	
T7	2160	T18	2140	T29	2160	S7	S18	S29	
T8	2160	T19	2140	T30	2140	S8	S19	S30	
T9	2160	T20	2160	T31	2140	S9	S20	S31	
T10	2140	T21	2160	T32	2160	S10	S21	S32	
T11	2140	T22	2160			S11	S22		
FATIGUE SAMPLE SIZE	FATIGUE MAX LOAD	FATIGUE MIN LOAD				METALLURGICAL SAMPLE SIZE	32		
N/A						MICRO STRUCTURE	ACCEPT		
F1 CYCLES	F1 LOCATION OF FAILURE						MACRO STRUCTURE	ACCEPT	
F2 CYCLES	F2 LOCATION OF FAILURE						DECARBURIZATION	NONE	
F3 CYCLES	F3 LOCATION OF FAILURE						CARBURIZATION	NONE	
F4 CYCLES	F4 LOCATION OF FAILURE						UNTEMPERED MARTENSITE	NONE	
F5 CYCLES	F5 LOCATION OF FAILURE						GRAIN FLOW	ACCEPT	
F6 CYCLES	F6 LOCATION OF FAILURE						DISCONTINUITIES	ACCEPT	
F7 CYCLES	F7 LOCATION OF FAILURE						DEVIATION/WAIVER NOTES		
F8 CYCLES	F8 LOCATION OF FAILURE						N/A		
FATIGUE ACCEPT	0	FATIGUE REJECT	0				CERTIFICATION AMENDMENT NOTES		
DATE	SIGNATURE TITLE	AUTHORIZED SIGNATURE						N/A	
11/19/2013	DATA ENTRY SPECIALIST	<i>Elaine Quave</i>						AMENDMENT DATE	





PAULO
PRODUCTS
COMPANY

HEAT TREATERS AND FINISHERS OF METAL

4827 CHELSEA AVENUE
KANSAS CITY, MO
64130-2821

P (816)861-7500
F (816)924-7300
www.paulo.com

CERTIFIED INSPECTION REPORT

S L F C INDUSTRIES
L 1221 CORPORATE DRIVE WEST
D P O BOX 5982
T ARLINGTON, TX 76006-5982

PART DESC: CROSS SECTION .1635"

PART NAME: SCREW PAN HEAD

PART #: MS27039-0807

QUANTITY: 275000 PCS

MATERIAL: 8740

PAULO #: 1192289-02

DATE: 08/05/2013

DATE REC'D: 07/26/2013

SHIP TO CODE:

CUSTOMER PO: 52995

CUSTOMER DRAY:

CUSTOMER JOB:

LOT #:

OTHER #:

Requirements:

Process per SAE spec AMS 2759/1 rev E,
Final core hardness 29-32 HRC

INSPECTION RESULTS:

CORE HARDNESS

Count: 13

Range: 29 -31 HRC

Certified Furnace # 501 Cycle/Load # 7
High heat temp: 1550±25° F Soak time: 60min

Quench: Oil

Temper furnace: 531 Temper temp/time: 1080±15° F / 2hrs

Paulo is responsible for hardness testing only, customer responsible for all other testing. Paulo is not responsible for tensile testing

I CERTIFY THAT APPLICABLE MATERIAL PROCESSES HAVE BEEN PERFORMED IN ACCORDANCE WITH THE SPECIFICATION SHOWN ABOVE.
I HAVE INSPECTED THE WORK AND THE SAMPLING AND RESULTS ARE AS INDICATED.

Approved By

Inspector Signature

CERTIFICATION
REVIEWED

ACCEPT

LFC

3



WireTech, Inc.

6440 E. Canning Street
Los Angeles, CA 90040
Phone (323) 722-4933
Fax (323) 721-2738

SOLD TO

LFC Industries
1221 Corporate Drive West
Arlington, TX 76011
USA

CERTIFICATION

WORK ORDER
098933

HEAT NO.
10224-350
SALES ORDER / RLS
849562 / 1
ISO 9001-2000 REGISTERED



CERT# 911.01

CUSTOMER P.O.	CUSTOMER PART	QUANTITY	CARRIERS	LADING NO	SHIPMENT DATE
15075					
5,113 Lbs 4					
SPECIFICATION L158740-101410b					
A-8740, AQ, SKFG, CHQ WIRE, SEAM & DECARB FREE, SAIP Zinc Phosphate, Lime & Stearate Coating, Size:0.141/0.142 Specifications: AMS 2301K, AMS6322N, MIL-S-S6049A, AMEND. 1, AMS-S-6049A					
CERTIFICATION REQUIREMENTS					
Chemical Properties					
C	Si	Mn	P	S	Cu Ni Cr Mo
.40	.250	.86	.009	.005	.08 .41 .54 .22
Physical Properties					
Grain Size	Jominy 1	Jominy 2	Jominy 3	Inclusions Macro	Cleanliness Mill Source
6 J5=55	J8=48	J10=45	S2-R1-C2	GOOD	F&S=0 Charter
Country of Origin					
USA - DFAR Compliant					
Mechanical Properties					
TEST	UNITS				Results
Tensile Strength	KSI				84.2
Yield Strength	KSI				71.6
% Elongation	%				23.5
% Reduction of Area	%				80.1
Rockwell Hardness B Scale	HRB (s)				87
Decarb (Total)	In				0.00
CERTIFICATION REVIEWED ACCEPT LFC 4					
Merchandise covered by this invoice is warranted to be free from defects in workmanship or material but not for any specific length of time, type or measure of service. No claim for allowance will be recognized unless presented in writing within 10 days time after receipt of material. Our maximum liability for any claim predicated upon defective merchandise is limited to replacement of it, or to repayment of it, or to repayment of the purchase price thereof, as we elect. Material cut to specific length or size cannot be returned for credit and request for cancellation of such orders will not be considered if manufacture has been commenced. Buyer, by acceptance of the merchandise covered by this invoice, agrees to the foregoing terms and conditions and those set forth on the reverse hereof. "The recording of false, fictitious or fraudulent statements or entries on this document may be punished as a felony under Federal statutes including Federal law, Title 18, Chapter 47."					
REPRODUCTION OF THIS CERTIFICATION IS NOT ALLOWED UNLESS IN FULL.					
Wire Tech, Inc. metallurgical laboratory is accredited in the following test: chemical analysis per ASTM E 415, mechanical testing per ASTM A 370, Rockwell hardness per ASTM E 18, metallographic mount preparation per ASTM E 5, decarbonization depth per ASTM E 1077, IFI 140, inclusion rating per ASTM E 46, decarburization performed as per IFI 140. The reported Chemical and Physical Properties are Mill Source results. Transcribed from mill certificates HRB(W) are hardness results performed with a 1/16" carbide ball. Unless otherwise specified, HRB and HRC results are conversions from ASTM A370 tables 1 and 2. Test result not covered by our current A2LA accreditation. Tests which have been undertaken by a subcontractor laboratory that is not accredited are not endorsed by A2LA or covered by Wire Tech, Inc. A2LA accreditation.					
TEST RESULTS RELATE ONLY TO THE ITEMS TESTED. LATEST REVISIONS OF ASTM					
DFAR Material per Clauses 252.225-7014 ALT. 1, 252.225-7009, & 225.003(9)					
Material is free of mercury, radium, or alpha contamination.					



CHARTER STEEL

A Division of
Charter Manufacturing Company, Inc.

EMAIL

1658 Cold Springs Road
Saukville, Wisconsin 53080
(262) 268-2400
1-800-437-8789
FAX (262) 268-2570

CHARTER STEEL TEST REPORT Reverse Has Text And Codes

Wiretech Incorporated
6440 East Canning Street
Attn: Andre Stephan
Los Angeles, CA-90040

Customer ID	6961-1
Customer Part#	8740C1A060-C-R
Charter Sales Order	70038041
Heat Number	10224350
Ship Code	4185055
Grade	8740 R SK FG AQ 1/4
Process	HRSA
Finish Size	1/4

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed below and on the reverse side, and that it satisfies these requirements.

Lab Code: 7388	Test Results of Heat Lot# 10224350											
	C	MN	P	S	SI	NI	CR	MO	CU	SN	V	
%Wt	.40	.86	.009	.005	.250	.41	.54	.22	.08	.007	.003	
	AL	N	B	TI	NB							
	.023	.0070	.0001	.002	.002							
JOMINY(HRC)	JOM01	JOM02	JOM03	JOM04	JOM05	JOM06	JOM07	JOM08	JOM09	JOM10	JOM12	
	56	56	56	56	55	52	50	48	47	45	42	
	JOM14	JOM16	JOM18	JOM20	JOM24	JOM28	JOM32					
	40	38	36	35	33	31	30					

JOMINY SAMPLE TYPE ENGLISH = C
MACRO ETCH SURFACE = 1 MACRO ETCH RANDOM = 1 MACRO ETCH CENTER = 1
AMS 2301 FREQUENCY AVERAGE = .00 AMS 2301 FREQUENCY INDIVIDUAL = .00
AMS 2301 SEVERITY AVERAGE = .00 AMS 2301 SEVERITY INDIVIDUAL = .00
CHEM. DEVIATION EXT.-GREEN =

REDUCTION RATIO = 616:1 Test Results of Rolling Lot# 1085468

	# of Tests	Test Results of Processing Lot# 4185006,4185055			TENSILE LAB = 0358-02	RA LAB = 0358-02	RB LAB = 0358-02
		Min Value	Max Value	Mean Value			
TENSILE	1.0	80.5	80.5	80.5			
REDUCTION OF AREA	1	74	74	74			
ROCKWELL B	1	79	79	79			

NUM DECARB = 1 FREE FERRITE DECARB = .000 FREE FERR & PARTIAL DECARB = .001
CP SPHERO % LAB = 0358-02 NUM SPHERO = 1 SPHERODIZATION = 85.0

Specifications:	Manufactured per Charter Steel Quality Manual Rev 9.08-01-09
	Meets customer specifications with any applicable Charter Steel exceptions for the following customer documents:
	Customer Document = AMS6322N/AMS2301K/COP3010W/BS2S147:1976 CHEM ONLY
	Revision = Dated =

Additional Comments:

Charter Steel
Saukville, WI, USA



This MTR supersedes all previously dated MTRs for this order

Janice Barnard
Manager of Quality Assurance
01/15/2013

The following statements are applicable to the material described on the front of this Test Report:

1. Except as noted, the steel supplied for this order was melted, rolled, and processed in the United States meeting DFAR's compliance.
2. Mercury was not used during the manufacture of this product, nor was the steel contaminated with mercury during processing.
3. Unless directed by the customer, there are no welds in any of the coils produced for this order.
4. The laboratory that generated the analytical or test results can be identified by the following key:

Certificate Number	Lab Code	Laboratory		Address
0358-01	7388	CSSM	Charter Steel Melting Division	1653 Cold Springs Road, Saukville, WI 53080
0358-02	8171	CSSR/CSSP	Charter Steel Rolling/Processing Division	1658 Cold Springs Road, Saukville, WI 53080
0358-03	123633	CSFP	Charter Steel Ohio Processing Division	6255 US Highway 23, Risingsun, OH 43457
0358-04	125544	CSCM/CSCR	Charter Steel Cleveland	4300 E. 49th St., Cuyahoga Heights, OH 44125-1004
*	*	--	Subcontracted test performed by laboratory not in Charter Steel system	

5. When run by a Charter Steel laboratory, the following tests were performed according to the latest revisions of the specifications listed below, as noted in the Charter Steel Laboratory Quality Manual:

Test	Specification	CSSM	CSSR/CSSP	CSFP	CSCM/CSCR
Chemistry Analysis	ASTM E415; ASTM E1019	X			X
Macroetch	ASTM E381	X			X
Hardenability (Jominy)	ASTM A255; SAE J406; JIS G0561	X			X
Grain Size	ASTM E112	X	X	X	X
Tensile Test	ASTM E8; ASTM A370		X	X	X
Rockwell Hardness	ASTM E18; ASTM A370	X	X	X	X
Microstructure (spheroidization)	ASTM A892		X	X	
Inclusion Content (Methods A, E)	ASTM E45		X		X
Decarburization	ASTM E1077		X	X	X

Charter Steel has been accredited to perform all of the above tests by the American Association for Laboratory Accreditation (A2LA). These accreditations expire 01/31/13.

All other test results associated with a Charter Steel laboratory that appear on the front of this report, if any, were performed according to documented procedures developed by Charter Steel and are not accredited by A2LA.

6. The test results on the front of this report are the true values measured on the samples taken from the production lot. They do not apply to any other sample.
7. This test report cannot be reproduced or distributed except in full without the written permission of Charter Steel. The primary customer whose name and address appear on the front of this form may reproduce this test report subject to the following restrictions:
 - It may be distributed only to their customers
 - Both sides of all pages must be reproduced in full
8. This certification is given subject to the terms and conditions of sale provided in Charter Steel's acknowledgement (designated by our Sales Order number) to the customer's purchase order. Both order numbers appear on the front page of this Report.
9. Where the customer has provided a specification, the results on the front of this test report conform to that specification unless otherwise noted on this test report.



LFC INDUSTRIES

1221 CORPORATE DR. W

ARLINGTON, TX 76006

DIV. OF RKR TECHNOLOGIES LTD

PLATING - PASSIVATION CERTIFICATION REPORT

LOT #
52995

CUSTOMER
B/E AEROSPACE

MILL HEAT #
10224350

PART #
MS27039-0807

PO #
0MJF71

HARDNESS REQUIRED
RC 26-32

QUANTITY
250000

FINISH TYPE
TYII CL2

FINISH SPECIFICATION
AMS-QQ-P-416C

TIME AND DATE OUT OF PLATE
N/A

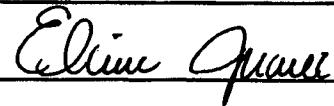
TIME AND DATE IN OVEN
N/A

TIME AND DATE OUT OF OVEN
N/A

THE PARTS REFERENCED ABOVE WERE PROCESSED IN ACCORDANCE WITH ALL APPLICABLE REQUIREMENTS OF THE STATED FINISH SPECIFICATION. HYDROGEN EMBRITTLEMENT RELIEF, IF REQUIRED WAS PERFORMED AFTER PLATING AT 375 DEGREES (F), FOR A MINIMUM OF TWENTY THREE HOURS UNLESS OTHERWISE SPECIFIED. ACCEPTANCE TESTS RECORDS ARE ON FILE AT LFC INDUSTRIES AND ARE SUBJECT TO EXAMINATION UPON REQUEST.

CERTIFICATION DATE
11/19/2013

AUTHORIZED SIGNATURE:



SIGNATURE TITLE
DATA ENTRY SPECIALIST

LFC INDUSTRIES
1221 CORPORATE DR. W
ARLINGTON, TX 76006

PHONE # 817-640-1322
FAX # 817-652-1566

NO MERCURY/CLASS 1 OZONE CONTENT CERTIFICATION

CUSTOMER	B/E AEROSPACE
PO #	0MJF71
PART #	MS27039-0807
LOT #	52995
QUANTITY	250000

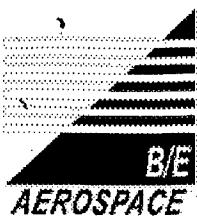
PLEASE BE ADVISED, THE ABOVE REFERENCED PARTS HAVE NOT COME INTO CONTACT WITH MERCURY/CLASS 1 OZONE DEPLETING SUBSTANCES DURING THE MANUFACTURING, TESTING, INSPECTION, OR HANDLING PROCESS. THE PRODUCT DOES NOT CONTAIN MERCURY/CLASS 1 OZONE DEPLETING SUBSTANCES TO THE BEST OF THE KNOWLEDGE OF LFC INDUSTRIES.

AUTHORIZED SIGNATURE:



SIGNATURE TITLE	DATA ENTRY SPECIALIST
-----------------	-----------------------

CERTIFICATION DATE	11/19/2013
--------------------	------------



B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO23060

LINE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
7	120	EA	AN3-35A		325586	CAL SCREW	8Z507		


Jason Lewis
Vice President of Quality

02/20/14



CALIFORNIA SCREW PRODUCTS CORPORATION
14957 GWENCHRIS COURT
PARAMOUNT, CALIFORNIA 90723-3423
TEL (562) 633-6626
FAX (562) 633-2082

PACKING SLIP

Original : 33373

*** Parts Manufactured in the USA ***

Sold To:	Ship To:
003635 B/E AEROSPACE CONSUMABLE MANAGEMENT P.O. BOX 025263 MIAMI, FLA 33102-5263	***** B/E AEROSPACE CONSUMABLE MANAGEMENT 9835 NW 14TH ST. MIAMI, FLA 33172

Customer P.O. No.	Sales Order	Date	Ship Via	Job No.		
0JPL49	50627	06-06-13	FED EX GROUND/WATKIN	325586		
Pos	Item	Ordered	Delivered Qty	Unit	Weight	No. of Cartons

10	AN3-35A	15000	15000	ea	480	15

B/E Aerospace, Inc. - Consumables Management
Self Release
Signature and Stamp: *Marcelino Taveras*

Date: JUN 10 2013	14	CSP
-------------------	----	-----

MANUFACTURERS OF AIRCRAFT FASTENERS AN-MS-NAS
CALIFORNIA SCREW PRODUCTS CORP.

14957 GWENCHRIS COURT

PARAMOUNT, CALIF. 90723-3423

CAGE NUMBER : 82507

Job Number : 325586

Airbus UK Approval No. AUK/SA/30144

BAE/AG/302357 MAA

Part Number : AN3-35A

TEST REPORT

Part Standard : NASM3-20 REV. 2

Shipped Quantity* : 15000

Customer : B/E AEROSPACE CONSUMABLE MANAGEMENT

Cust. Purchase Order Number : 0JPL49

Mfg Quantity: 16000

Procurement Spec. : NASM6812 REV. 3

Thread Size & Form : .190-32 UNF-3A

Matl Spec: AMS 6322 REV. N

Surface Finish Spec : AMS-QQ-P-116 REV. C

Thread Spec : MIL-S-7742 REV. D

Item Description: Bolt

Heat Treat Spec : AMS2759/1 REV. E

Sample Size Spec. : NASM6812 REV. 3

Heat Number: 10189931

Mgntc Permeability : N/A

* Actual piece count is within +/- 2% of the shown lot quantity.

NON-DESTRUCTIVE TESTS / SUBCONTRACTED (SEE CERTIFICATION)

Sample Size : 0 specimens

Inspection Results:

Accept : 0

Reject : 0 specimens

Magnetic Particle : N/A

Fluorescent Penet. : N/A

METALLURGICAL EXAMINATION RESULTS

Sample Size : 5 specimens

Accept :

Reject :

Lab Mount No. : 43870

GRAIN SIZE : N/A

HEAD STRUCTURE : Accept

LAPS

Accept

MICRO STRUCTURE : Accept

FILLET COLD WORKED : Accept

DECARB

SEAMS

CARBURIZED

GRAIN FLOW HEAD : Accept

GRAIN FLOW THREAD : Accept

CRACKS

Accept

THREAD RUN OUT

MECHANICAL TESTS RESULTS

ULTIMATE TENSILE STRENGTH (lbs.) - Loc. of Failure: Threads

Minimum Req. : 2210

Sample Size : 5 specimens

Accept :

Reject :

Maximum Req. : 0

1. 2927	2. 2970	3. 2998	4. 2988	5. 3016	6. N/A	7. N/A	8. N/A
9. N/A	10. N/A	11. N/A	12. N/A	13. N/A	14. N/A	15. N/A	16. N/A
17. N/A	18. N/A	19. N/A	20. N/A	21. N/A	22. N/A	23. N/A	24. N/A
25. N/A	26. N/A	27. N/A	28. N/A	29. N/A	30. N/A	31. N/A	32. N/A

SHEAR (lbs.) S/D : SINGLE Sample Size : 5 specimens Accept : 5 Reject : 0 Minimum Req. : 2125

1. 2603	2. 2580	3. 2703	4. 2610	5. 2523	6. N/A	7. N/A	8. N/A
9. N/A	10. N/A	11. N/A	12. N/A	13. N/A	14. N/A	15. N/A	16. N/A
17. N/A	18. N/A	19. N/A	20. N/A	21. N/A	22. N/A	23. N/A	24. N/A
25. N/A	26. N/A	27. N/A	28. N/A	29. N/A	30. N/A	31. N/A	32. N/A

HARDNESS TEST - Sample Size : 5 Hardness Req. RC : 26-32 Hardness Results : 27-29

STRESS RUPTURE TEST - N/A Load (lbs.) : 0 Temperature (F) : 0 Periodic test, REF Job No.

Sample Size : 0 Hours : 0

FATIGUE TEST - N/A Cycles : 0 Min Req. : 0

Sample Size : 0 Low Load (lbs.) : 0 High Load (lbs.) : 0

TORQUE TEST - N/A Sample Size : 0 Load (lbs/in) : 0

DFAR 252.225.7009
COMPLIANCE

STRESS DURABILITY TEST - N/A Sample Size : 0 LOAD (Lbs.) : 0 Hours : 0

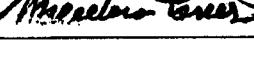
STATEMENT OF CONFORMANCE:

This report relates only to items inspected/tested. Deviations from standard test methods, if any, are noted, and results from subcontracted inspection or testing, if any, are identified. All items were manufactured in the USA under a quality management system, which complies with ISO 9001 and with AS 9100. CALIFORNIA SCREW PRODUCTS CORP, hereby states: That the above product is mercury free; that the above listed lot has been produced, sampled, tested, inspected and marked in accordance with all requirements and that the product complies with all specification and contract requirements; that evidence of which is in the files of our company subject to examination. This report shall not be reproduced except in full, unless authorized in writing by CALIFORNIA SCREW PRODUCTS CORPORATION.

MARIAELENA
TORRES

B/E Aerospace, Inc. - Consumables Management

Self Release

Signature and Stamp: 

Date: _____

FINAL INSPECTOR

(Name, Signature, Stamp and Date)



Form QCSP019 Form Revision Date: 06/06/2007



WireTech, Inc.

6440 E. Canning Street
Los Angeles, CA 90040
Phone (323) 722-4833
Fax (323) 721-2738

SOLD TO

Cal Screw Products
14957 Gwenchris Ct.
Paramount, CA 90723
USA

CERTIFICATION

WORK ORDER/
092620

HEAT NO./
10189931/
SALES ORDER / RLS
845382 / 1
ISO 9001-2000 REGISTERED



MECHANICAL TESTING
CERT # 911.01

3/1325586

CERT# 911.01

CUSTOMER P.O.	CUSTOMER PART	QUANTITY	CARRIERS	LADING NO	SHIPMENT DATE
121410	H1070	2,236 Lbs	2	00098595	08/01/2012

SPECIFICATION CO48740-101865A
A-8740, AQ, SKFG, CHQ/WIRE, SAIP Zinc Phosphate, Lime & Stearate Coating, Size:0.185/0.186 Specifications:
AMS 2301K, AMS322N, MIL-S-6049A, AMEND. 1, H1070/AMS-S-6049-A

CERTIFICATION REQUIREMENTS

Chemical Properties

C	Si	Mn	P	S	Cu	Ni	Cr	Mo
.39	.27	.88	.012	.005	.09	.42	.53	.21

Physical Properties

Grain Size Jominy 1	Jominy 2	Jominy 3	Inclusions	Macro	Cleanliness	Mill Source
6 J5=54	J8=47	J10=44	S2-R1-C2	GOOD	F&S=0	Charter

Country of Origin

USA - DFAR Compliant

Mechanical Properties

TEST	UNITS	Results
Tensile Strength	KSI	86.6
Yield Strength	KSI	73.6
% Elongation	%	24
% Reduction of Area	%	75.0
Rockwell Hardness B Scale	HRB (s)	89

8830
Jose Servantez
AUG 12 2012
DFAR 252.225.7009
COMPLIANCE

Merchandise covered by this invoice is warranted to be free from defects in workmanship or material but not for any specific length of time, type or measure of service. No claim for allowance will be recognized unless presented in writing within 10 days time after receipt of material. Our maximum liability for any claim predicated upon defective merchandise is limited to replacement of it, or to repayment of it, or to repayment of the purchase price thereof, as we elect. Material cut to specific length or size cannot be returned for credit and request for cancellation of such orders will not be considered if manufacture has been commenced. Buyer, by acceptance of the merchandise covered by this invoice, agrees to the foregoing terms and conditions and those set forth on the reverse hereof. The recording of false, fictitious or fraudulent statements or entries on this document may be punished as a felony under Federal statutes including Federal law, Title 18, Chapter 47.

REPRODUCTION OF THIS CERTIFICATION IS NOT ALLOWED UNLESS IN FULL.

Wire Tech, Inc. metallurgical laboratory is accredited in the following test: chemical analysis per ASTM E 418, mechanical testing per ASTM A 370, Rockwell hardness per ASTM E 18, metallographic mount preparation per ASTM E 3, decarburization depth per ASTM E 1077, IFI 140, inclusion rating per ASTM E 45, decarburization performed as per IFI 140. The reported Chemical and Physical Properties are Mill Source results. Transcribed from mill certificates. HRB(HV) are hardness results performed with a 1/16" carbide ball. Unless otherwise specified, HRB and HRC results are conversions from ASTM A370 tables 1 and 2. *Test result not covered by our current A2LA accreditation. Tests which have been undertaken by a subcontractor laboratory that is not accredited are not endorsed by A2LA or covered by Wire Tech, Inc. A2LA accreditation.

TEST RESULTS RELATE ONLY TO THE ITEMS TESTED.
LATEST REVISIONS OF ASTM

DFAR Material per Clauses 252.225-7014 ALT. 1, 252.225-7009, & 225.003(9)

Material is free of mercury, radium, or alpha contamination.

3/1325586

The following statements are applicable to the material described on the front of this Test Report:

1. Except as noted, the steel supplied for this order was melted, rolled, and processed in the United States meeting DFAR's compliance.
2. Mercury was not used during the manufacture of this product, nor was the steel contaminated with mercury during processing.
3. Unless directed by the customer, there are no welds in any of the coils produced for this order.
4. The laboratory that generated the analytical or test results can be identified by the following key:

Certificate Number	Lab Code	Laboratory		Address
0358-01	7388	CSSM	Charter Steel Melting Division	1653 Cold Springs Road, Saukville, WI 53080
0358-02	8171	CSSR/CSSP	Charter Steel Rolling/Processing Division	1658 Cold Springs Road, Saukville, WI 53080
0358-03	123633	CSFP	Charter Steel Ohio Processing Division	6255 US Highway 23, Risingsun, OH 43457
0358-04	125544	CSCM/CSCR	Charter Steel Cleveland	4300 E. 49th St., Cuyahoga Heights, OH 44125-1004
		--		Subcontracted test performed by laboratory not in Charter Steel system

5. When run by a Charter Steel laboratory, the following tests were performed according to the latest revisions of the specifications listed below, as noted in the Charter Steel Laboratory Quality Manual:

Test	Specification	CSSM	CSSR/CSSP	CSFP	CSCM/CSCR
Chemistry Analysis	ASTM E415; ASTM E1019	X			X
Macroetch	ASTM E381	X			X
Hardenability (Jominy)	ASTM A255; SAE J406; JIS G056	X			X
Grain Size	ASTM E112	X	X	X	X
Tensile Test	ASTM E8; ASTM A370		X	X	X
Rockwell Hardness	ASTM E18; ASTM A370	X	X	X	X
Microstructure (spheroidization)	ASTM A892		X	X	
Inclusion Content (Methods A, E)	ASTM E45		X		X
Decarburization	ASTM E1077		X	X	X

Charter Steel has been accredited to perform all of the above tests by the American Association for Laboratory Accreditation (A2LA). These accreditations expire 01/31/13.

All other test results associated with a Charter Steel laboratory that appear on the front of this report, if any, were performed according to documented procedures developed by Charter Steel and are not accredited by A2LA.

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7. This test report cannot be reproduced or distributed except in full without the written permission of Charter Steel. The primary customer whose name and address appear on the front of this form may reproduce this test report subject to the following restrictions:
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 - Both sides of all pages must be reproduced in full.
8. This certification is given subject to the terms and conditions of sale provided in Charter Steel's acknowledgement (designated by our Sales Order number) to the customer's purchase order. Both order numbers appear on the front page of this Report.
9. Where the customer has provided a specification, the results on the front of this test report conform to that specification unless otherwise noted on this test report.



RMX 8830
JOSE RIVANTE'S
AUG 02 2012
DFAR 252.225.7009
COMPLIANCE



CERTIFICATION

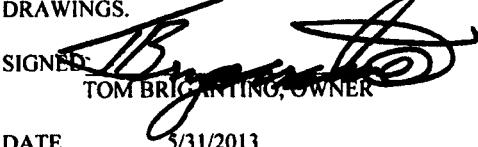
Southwest Plating Company, LLC

1344 W. Slauson Ave.
 Los Angeles, CA 90044-2824
 Telephone (323) 753 - 3781
 Fax (323) 753 - 9472

DATE	INVOICE #
5/31/2013	130694

BILL TO
CA Screw Products Corp P.O. Box 228 Parmount,Ca. 90723

SHIP TO
CA Screw Products Corp 14957 Gwen Chris Ave. Parmount,Ca. 90723

P.O. NUMBER	TERMS	REP	SHIP	VIA	F.O.B.	PROJECT
130427	Net 30		5/31/2013			
QUANTITY	ITEM CODE	DESCRIPTION			PRICE EACH	AMOUNT
# OF PIECES	16000				0.00	0.00
PART NUMBER	AN3-35A REV.N/A NASM3-20 REV.2				0.00	0.00
PANS	11				0.00	0.00
JOB NUMBER	325586				0.00	0.00
POUNDS	515				0.00	0.00
MATERIAL	8740				0.00	0.00
THICKNESS	.00032-.00047				0.00	0.00
41	CAD PLATE TYPE 11 CL 2 PER AMS-QQ-P-416C				0.00	0.00
CERT	.190-32 UNF-3A R/C 27-32 A/P .189-.186				0.00	0.00
SIGN 1	WE HEREBY CERTIFY THAT THE PROCESSING AND INSPECTION PERFORMED ON PARTS BY THIS PURCHASE ORDER ARE IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS AND CUSTOMER DRAWINGS.				0.00	0.00
	SIGNED:  TOM BRINGTON, OWNER				0.00	0.00
	DATE <u>5/31/2013</u>					

Claims must be made within 5 days of receipt of goods. No returns accepted without our approval.

Total

\$0.00



B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

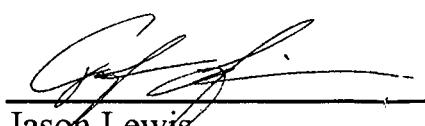
Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO23060

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
8	50	EA	AN6-35A		13146	AIRFASCO INDUSTRIES	3Z958		


Jason Lewis
Vice President of Quality
02/20/14

Airfasco Industries, Inc.

2655 Harrison Ave SW
Canton, OH 44706
Ph: 330-430-6190, Fax: 330-430-6199,

Packing Slip

Original

Invoice #: 111847

Invoice Date: 1/20/2009

Time: 1:40:12 PM

Page: 1

To:
M&M AEROSPACE HARDWARE
PO BOX 025263
MIAMI, FL 33102
USA
Ph: 305-592-5155 Fax: 305-591-8357 PURCHAS

Ship To:
M&M AEROSPACE HARDWARE
10000 NW 15TH TERRACE
MIAMI, FL 33172

Cust. PO#: 0FJ998
Order Date: 6/9/2008
Prepared By:
Customer #: 12726
Buyer: JOE GRAY

Terms: NET 60
of Items: 1
Sales Order: 90325
VAT #:
FOB:

Ship Via: FEDEX GROUND CO
Ship Via Acc: 0331-0149-0
of Boxes: 153
Ship Log #: 1
Cust VAT #:
AWB:

Weight: 7265
Ship Order:
Ship Date: 1/20/2009
Shipment:

Item	Part Number/Description	Shipped	BackOrd	CD			Unit Price	UCM	Total Amt
1	AN6-35A BOLT, AN Loc/Whse: Control #: 138565-1 L-13146 TEST REPORT L-13146	2500	0	NE				EA	

C OF C ENCLOSED
153 BOXES 1271,1111,1314,1353,988,1228 LBS
6 PALLETS
PARTS MADE IN USA
THANK YOU!

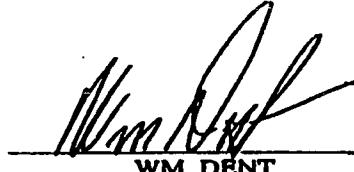


2655 HARRISON AVE. SW
CANTON, OH 44706
PHONE: (330)430-6190
FAX: (330)430-6199

CERTIFICATE OF CONFORMANCE

M&M AEROSPACE HARDWARE

I hereby certify that on 1/19/2009 AIRFASCO Industries provided the supplies called for by Contract/PO Number 0FJ998 in accordance with all applicable requirements for shipment. I further state that the process certifications are in conformance with the contract requirements, including specifications and/or drawings, physical item identification (part number) and the quantity shown on this or attached acceptance document. The part numbers certified below have been manufactured in the United States.



WM. DENT

Quality Assurance Representative

PART NUMBER	LOT NUMBER	QUANTITY	PART NUMBER	LOT NUMBER	QUANTITY
AN6-35A	13146	2500			

C1F3-0



2655 HARRISON AVE. SW
CANTON, OH 44706
PHONE: (330)430-6190
FAX: (330)430-6199

PHYSICAL AND CHEMICAL CERTIFICATION

DATE MFG.: 01/15/09

PART NO.: AN6-35A per NASM6-35A rev. 1

AFC LOT NO.: 13146

QTY MFG.: 16,664

PROCUREMENT SPECIFICATION: Produced per NASM 6812 Rev. 2

HEAT TREAT

VENDOR: Brite Metal

CERTIFICATION NO.: B-141648

PROCUREMENT SPECIFICATION: Heat Treat per MIL-H-6875 H

PLATING

VENDOR: Beringer Plating

CERTIFICATION NO.: 52467

PROCUREMENT SPECIFICATION: Cadmium Plate per AMS QQ-P-416B, Type II, Class 2

MATERIAL

MILL: Ivaco COUNTRY OF MELT: Canada HEAT: W95376

GRADE SPECIFICATION: Alloy Steel per AMS 6300 C, Type 4037, .390"

4037 MATERIAL CHEMISTRY											
ELEMENT-ID.	-C-	-MN-	-P-	-S-	-SI-	-NI-	-CR-	-MO-	-CU-	Other	Other
LADLE	.380	.800	.009	.004	.190	.080	.090	.240	.040		

PHYSICAL PROPERTIES				
PHYSICAL	TENSILE	YIELD	SHEAR	HARDNESS
REQUIRED	10,100 lbs.	7,740 lbs.	8,280 lbs.	HRC 26-32
ACTUAL	13,221 lbs.	12,501 lbs.	8,847 lbs.	HRC 28.5-30

Non-Destructive Magnetic Particle per ASTM-E-1444-05

We hereby certify that the above data is correct and that the fasteners have been manufactured and inspected in accordance with Airfasco Industries quality requirements.

Airfasco Industries
Quality Assurance Representative:

Wm. Dent



B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO23060

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
5	50	EA	MS21044-N08		39995-000	MACLEAN-ESNA	019L2		



Jason Lewis
Vice President of Quality

02/20/14

5131

MACLEAN-ESNA
PLATEK NOW PACKING LISTShip From: MacLean ESNA
611 Country Club Road
Pocahontas, AR 72455Col/Ppd: 01 COLLECT
Routing: 01 Not on fileSold to: 552550
BE AEROSPACE INC
PO BOX 025263
MIAMI, FL 33102-5263Ship To: 552550-0000
M&M AEROSPACE HARDWARE
10000 N.W. 15 TERRACE
MIAMI, FL 33172

Customer P.O.: OHJ057

Order No: 055028-00 BAGS 05
Tkn By: SEH Chgd By: SEH

Ord. Qty.	Item Number	Line	Prom Date	LOCN	Qty.	No. of Cartons	Net Weight
No. Ctns	Description			TAG	QOH	Picked	
Ship Qty.				HT/LOT			
500000	175746	0010	04/01/10	✓A50A	15096	15096	2 59*
500,000	F22NM-82			0	1770-000		
	MS21044N08						
	CTN QTY: 10000 Cus Pt: MS21044N08						
				✓C31A	9925	9925	1 39*
				11765			
				1770-000			
				✓M36B	9950	9950	1 39*
				11548			
				38489-000			
				✓B35A	225000	225000	23 900*
				11204			
				✓B36A	202537	202537	24 911*
				11205			
				✓C30B	37492	37492	4 152*
				11210			
				39995-000			

***** CERTS REQUIRED *****

***** REL. NBR V-099325 *****

Order Total: ~~2065~~2 SKIDS
52 BXs 2065*

***** ORDER COMMENTS *****

QTY TOLERANCE +7-2%

UNDER 150# FEDEX GROUND 0331-0149-0 MARK COLLECT

OVER 150# FEDEX NATIONAL LTL 018257

DO NOT INSURE

F.O.B. POCOHONTAS, AR

ALL ITEMS MUST BE NEW AND TO LATEST
REVISION

*** Continued On The Next Page ***

3/22/10
B

3/22/10

MACLEAN-ESNA
P T C E & PACKING LTDShip To: MacLean ESNA
111 Country Club Road
Pocahontas, AR 72455

Sold to: 552550

RE AEROSPACE INC
PO BOX 025263
MIAMI, FL 33102-5263

Col/Pod# 01 COLLECT

Routing# 01 Not on file

1961000

Customer P.O.# OJ-057

Ord."City" Item Number
SIC # Description
SIP # GSY#

101020

134452

101000
62000Order No: 055028-00 B/D: 05
Trn By: SEH Chg'd By: SEH
Locn Qty" No. of Net
Tag Picked CartonsShip To: 552550-0000
M&M AEROSPACE HARDWARE
10000 N.W. 15 TERRACE
MIAMI, FL 33172Col/Pod# 01 COLLECT
Routing# 01 Not on file

200'000

21331

**MACLEAN-ESNA
A MACLEAN-FOGG COMPANY
611 COUNTRY CLUB ROAD
POCAHONTAS, ARKANSAS 72455
(870) 892-5201**

TO: M&M AEROSPACE HARDWARE
10000 N.W. 15 TERRACE
MIAMI, FL 33172

DATE: 3/23/2010

SUBJECT:	YOUR ORDER NUMBER	ITEM NUMBER
	OHJ057	1
ESNA ORDER NUMBER	055028	
FSCM/ CAGE NUMBER	019L2	
YOUR PART NUMBER	MS21044N08	
CERTIFIED AS	MS21044N08 PER NASM21044 (NEW)	
ESNA PART NUMBER	F22NM-82	
QUANTITY	37492	
PACKING LIST NUMBER	51331	
SHOP ORDER NUMBER	39995 - 000	

Gentlemen:

This is to certify that all applicable plating, heat treating, and inspection processing and that all material used in the manufacture of subject parts conform to the specification or drawings received by ESNA and set forth in the subject purchase order; that the parts are of good material and workmanship; and that all necessary records, including chemical and physical where applicable, will be made available for review upon request. The inspection and test reports provided represent the actual attributes of the items furnished on this contract and indicate full compliance with all applicable specification and contract requirements.

This is to certify that the materials supplied against the subject order are free of contamination by presence of mercury.

Very truly yours,

**MACLEAN-ESNA
A MACLEAN-FOGG COMPANY**

Jim Earley
Jim Earley
Quality Assurance Manager

**MACLEAN-ESNA
A MACLEAN-FOGG COMPANY
POCAHONTAS, ARKANSAS 72455**

CERTIFICATE OF QUALITY COMPLIANCE

DATE: 3/23/2010

TO: M&M AEROSPACE HARDWARE
10000 N.W. 15 TERRACE
MIAMI, FL 33172

ESNA PART NO. F22NM-82
MANUFACTURER'S LOT SIZE 77064 (APPROX. WT. COUNT)
MANUFACTURED UNDER SHOP ORDER NUMBER 39995 - 000
ORIGINATED AS SHOP ORDER NUMBER _____

ACCEPTANCE TESTS PER NASM 25027

MATERIAL	RAW MATERIAL TYPE 0.310 RD 1010 CHQ WIRE	DATE MFG: 08-08
RAW MATERIAL CONFORMS TO	ASTM A-510	AS EVIDENCED BY THE ATTACHED MILL CERTIFICATION. ESNA SHOP
ORDER NO.	39995 - 000 MILL HEAT NO. 527730	VENDOR WIRE TECH
RED NYLON IS A TRADEMARK OF ELASTIC STOP NUT. THIS ASSURES TRACEABILITY OF PARTS TO SOURCE. MATERIAL CERTIFICATION WITH HEAT NUMBERS ASSURES TRACEABILITY TO VENDOR OF RAW MATERIAL. NONMETALLIC INSERT CONFORMS TO ASTM D4066-00. (ZYTEL 103)		

FINISH	FINISH TYPE	CADMIUM PLATED TO SAE AMS QQ-P-416B, TY II, CL 2	
	LUBRICANT TYPE	NO ADDITIONAL LUBRICANT	
AXIAL STRENGTH	REQUIRED LBS. MINIMUM	1720	ALL SAMPLE PIECES TESTED MEET OR EXCEED
	EXCEEDS LBS.	2100	MINIMUM REQUIREMENTS.
SAMPLE SIZE	15	PIECES.	

WORKMANSHIP CONFORMS DIMENSIONALLY TO MS21044N08 PER NASM21044 (NEW) STANDARD. BEARING SURFACE SQUARENESS AS SPECIFIED PER NASM 25027

DISCONTINUITIES

WITHIN LIMITS PER NASM 25027 AND MIL-STD-271D/ACN 1/ AND REV E/ NOTICE 2/ AND REV F/ NOTICE 1.

ASTM E1444 -- MT PER SPEC 725	SAMPLE SIZE(MT - PCS):	0
	ACCEPTED(PCS):	N/A
ASTM E1417 -- PT PER SPEC 731	SAMPLE SIZE(PT - PCS):	0
	ACCEPTED(PCS):	N/A

LOCKING TORQUE	MAXIMUM LOCKING(IN. LBS.): 15	
	MINIMUM BREAKAWAY(IN. LBS.): 1.5	
1ST CYCLE MAXIMUM LOCKING(IN. LBS.):	3.5	ALL SAMPLE PIECES MEET
7TH CYCLE MAXIMUM LOCKING(IN. LBS.):	3.9	OR EXCEED MINIMUM REQTS.
15TH CYCLE MAXIMUM LOCKING(IN. LBS.):	3.5	
15TH MINIMUM BREAKAWAY(IN. LBS.):	2.1	SAMPLE SIZE 15 PIECES

MERCURY FREE CLAUSE WE CERTIFY THAT NO POSSIBILITY EXISTS FOR MERCURY CONTAMINATION TO OCCUR DURING MANUFACTURE, ASSEMBLY, OR TESTING OF PARTS ON THIS CONTRACT.

I CERTIFY THAT THE ABOVE TEST RESULTS AND/OR STATEMENTS ARE CORRECT AND REPRESENT THE PRODUCTS AS SUPPLIED.

FSCM/CAGE NO. 019L2

COQC-NASM. REV. 7-9-09

SIGNATURE *Blanch Chambers*
JIM EARLEY, QUALITY ASSURANCE MANAGER

The following statements are applicable to the material described on the front of this Test Report:

1. Except as noted, the steel supplied for this order was melted, rolled, and processed in the United States.
2. Mercury was not used during the manufacture of this product, nor was the steel contaminated with mercury during processing.
3. Unless directed by the customer, there are no welds in any of the coils produced for this order.
4. The laboratory that generated the analytical or test results can be identified by the following key:

Certificate Number	Lab Code	Laboratory		Address
0358-01	7388	CSMD	Charter Steel Melting Division	1653 Cold Springs Road, Saukville, WI 53080
0358-02	8171	CSRD/CDPD	Charter Steel Rolling/Processing Division	1658 Cold Springs Road, Saukville, WI 53080
0358-03	123633	P4	Charter Steel Ohio Processing Division	6255 US Highway 23, Risingsun, OH 43457
0358-04	125544	CSC	Charter Steel Cleveland	4300 E. 49th St., Cuyahoga Heights, OH 44125-1004
358.05	128003	CSDT	Charter Steel Detroit	23860 Sherwood Ave. Center Line, MI 48015
		--	Subcontracted test performed by laboratory not in Charter Steel system	

5. When run by a Charter Steel laboratory, the following tests were performed according to the latest revisions of the specifications listed below, as noted in the Charter Steel Laboratory Quality Manual:

Test	Possible Laboratory	Specification
Chemistry Analysis	CSMD, CSC	ASTM E415; ASTM E1019
X-ray Fluorescence Stainless and Alloy Steel	CSC	ASTM E572
Macroetch	CSMD, CSC	ASTM E381
Hardenability (Jominy)	CSMD, CSC	ASTM A255; SAE J406; JIS G0561
Grain Size	CSMD	ASTM E112
Tensile Test	CSRD/CSPD, P4, CSC, CSDT	ASTM E8; ASTM A370
Rockwell Hardness	CSMD, CSRD/CSPD, P4, CSC, CSDT	ASTM E18; ASTM A370
Microstructure (spheroidization)	CSRD/CSPD, P4	ASTM A892
Inclusion Content (Methods A, E)	CSRD/CSPD, CSC	ASTM E45

Charter Steel has been accredited to perform all of the above tests by the American Association for Laboratory Accreditation (A2LA). These accreditations expire 01/31/09.

All other test results associated with a Charter Steel laboratory that appear on the front of this report, if any, were performed according to documented procedures developed by Charter Steel and are not accredited by A2LA.

6. The test results on the front of this report are the true values measured on the samples taken from the production lot. They do not apply to any other sample.
7. This test report cannot be reproduced or distributed except in full without the written permission of Charter Steel. The primary customer whose name and address appear on the front of this form may reproduce this test report subject to the following restrictions:
 - It may be distributed only to their customers
 - Both sides of all pages must be reproduced in full
8. This certification is given subject to the terms and conditions of sale provided in Charter Steel's acknowledgement (designated by our Purchase Order number) to the customer's purchase order. Both Purchase Order numbers appear on the front page of this Report.
9. Where the customer has provided a specification, the results on the front of this test report conform to that specification unless otherwise noted on this test report.

39995 - 000



SSN
CPT



B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO23060

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MPR DATE	EXP DATE
3	3000	EA	MS21042L4		43474-000	MACLEAN-ESNA	019L2		


Jason Lewis
Vice President of Quality

02/20/14

** Packing Slip ** Page
• • • • 1

Date
7/02/13
10:23
Ship#: 062503

Sold BE AEROSPACE INC
To PO BOX 025263
MIAMI, FL 33102-5263

Ship B/E AEROSPACE
To 9835 NW 14TH ST
MIAMI, FL 33172

Order No.	Order date	Cust No.	Loc Sls rep	P.O. No.	Job No.	Ship Via	Col Ppd
072226	1/20/12	552550	29 999		Not on file	COLLECT	
			OFEW58			Collect	

Order qty	B/O ship	Item Number / Level	UM	Need Date	Summ Qty	Item Loc
qty	ship	description				

380891	218218	056054	MS21042L4	EA	29-Loc
--------	--------	--------	-----------	----	--------

562673 M52LF3324-4 (7/01/13)

***** CERTS REQUIRED *****

***** DFAR 252.225.7014 REQUIRED *****

Cert Type 01

***** EXACT QTY ***

A50A	DFAR	44452-000	441,973
M39D	13821	43474-000DFAR	120,700

***** ORDER COMMENTS *****

QTY TOLERANCE +/-2%

UNDER 150# FEDEX GROUND

0331-0149-0 MARK COLLECT

OVER 150# FEDEX NATIONAL LTL

018757

STANDARD FRT TERMS: EXW

ALL ITEMS MUST BE NEW AND TO LATEST

REVISION

"DO NOT COVER ESNA PRODUCT LABEL"

*** Shipment Summary: 57 Cartons 0 Pallets 1,805.00 Weight

MACLEAN-ESNA
A MACLEAN-FOGG COMPANY
POCAHONTAS, ARKANSAS 72455

CERTIFICATE OF QUALITY COMPLIANCE

DATE: 7/2/2013

TO: B/E AEROSPACE
 9835 NW 14TH ST
 MIAMI, FL 33172

ESNA PART NO.	M52LF3324-4
MANUFACTURER'S LOT SIZE	306848 (APPROX. WT. COUNT)
MANUFACTURED UNDER SHOP ORDER NUMBER	43474 - 000
ORIGINATED AS SHOP ORDER NUMBER	
CUSTOMER PO #:	OFEW58
ESNA ORDER #:	072226
CUSTOMER PART #:	MS21042L4
PACKING LIST #:	62503
QTY PACKAGED:	120700

ACCEPTANCE TESTS PER NASM 25027

MATERIAL	RAW MATERIAL TYPE	.281 4037 WIRE	DATE MFG:	11/29/12
RAW MATERIAL CONFORMS TO AMS 6300E		AS EVIDENCED BY THE ATTACHED MILL CERTIFICATION. ESNA SHOP		
ORDER NO. 43474	- 000	MILL HEAT NO. 10194500	VENDOR	WIRE TECH

FINISH	FINISH TYPE	CAD. PLATE TO SAE AMS QQ-P-416B, TY II, CL 2
	LUBRICANT TYPE	EVERLUB 620C DRY FILM LUBE PER AS5272 TYPE I

ACCEPTED 23 HR STRESS EMBRITTLEMENT LOADED TO 129 IN LBS. MIN.

AXIAL STRENGTH	REQUIRED LBS. MINIMUM	6470	ALL SAMPLE PIECES TESTED MEET OR EXCEED
	EXCEEDS LBS.	6500	MINIMUM REQUIREMENTS.

SAMPLE SIZE 27 PIECES.

HARDNESS REQUIREMENT HRC 43-46 IS HRC 43-44

WORKMANSHIP	CONFORMS DIMENSIONALLY TO MS21042L4 PER NASM21042 (NEW)	STANDARD.
	BEARING SURFACE SQUARENESS AS SPECIFIED PER NASM 25027	

DISCONTINUITIES

WITHIN LIMITS PER NASM 25027

AND-MIL-STD-271D/ACN 1/ AND REV E/ NOTICE 2/ AND REV F/ NOTICE 1.

ASTM E1444	MT PER SPEC 725 X	SAMPLE SIZE(MT - PCS):	32
		ACCEPTED(PCS):	32
	PT PER SPEC 731	SAMPLE SIZE(PT - PCS):	0
		ACCEPTED(PCS):	N/A

This is to certify that all applicable plating, heat treating, and inspection processing and that all material used in the manufacture of subject parts conform to the specification or drawings received by ESNA and set forth in the subject purchase order; that the parts are of good material and workmanship; and that all necessary records, including chemical and physical where applicable, will be made available for review upon request. The inspection and test reports provided represent the actual attributes of the items furnished on this contract and indicate full compliance with all applicable specification and contract requirements.

This is to certify that the materials supplied against the subject order are free of contamination by presence of mercury.

**MACLEAN-ESNA
A MACLEAN-FOGG COMPANY
POCAHONTAS, ARKANSAS 72455**

LOCKING TORQUE TEST

CUSTOMER NAME **B/E AEROSPACE
9835 NW 14TH ST
MIAMI, FL 33172**

CUSTOMER DUE DATE

7/2/2013

CUSTOMER PO #	OFEW58	ESNA ORDER #	072226
ITEM NUMBER	056054	PART #	M52LF3324-4
QUANTITY	120700	SHOP ORDER #	43474 - 000
THREAD SIZE	.2500-28 UNJF-3B	LOT QUANTITY	306848
HEX	.306-.314	PARENT SHOP ORDER #	
LINE NO	1		
MS NUMBER - REF:	MS21042L4 PER NASM21042 (NEW)		

Sample Size & Requirements per Spec **NASM 25027**

SampleSz **27**

REQUIREMENT: 1ST, 7TH, 15TH, INSTALLATION MAXIMUM TORQUE		30
15TH BREAKAWAY MINIMUM TORQUE		3.5

SAMPLE #	1ST ON	1ST BREAK	7TH ON	7TH BREAK	15TH ON	15TH BREAK
1	20	18	14	12	07	06
2	22	20	13	10	08	07
3	20	16	14	12	08	07
4	18	20	14	12	07	06
5	22	20	15	13	08	05
6	20	20	14	12	10	07
7	22	20	15	13	08	06
8	18	16	14	12	10	08
9	20	20	15	12	08	07
10	22	20	16	15	12	10
11	20	18	14	12	08	07
12	20	17	13	10	08	07
13	24	20	16	12	08	06
14	20	18	14	12	08	06
15	22	20	16	14	10	08
16	22	20	15	12	07	05
17	24	19	15	14	08	06
18	26	22	18	16	12	09
19	24	22	16	14	10	07
20	22	20	15	16	10	08
21	18	16	12	10	06	05
22	20	18	14	12	08	07
23	22	18	12	10	08	08
24	20	16	12	10	07	06
25	22	20	16	12	08	06
26	20	18	14	12	07	05
27	20	18	14	12	06	05

SIGNATURE

[Signature] **DONNIE AUTRY, QUALITY ASSURANCE MANAGER**
Brenda Ramsey, Quality Inspector

WireTech, Inc.

6440 E. Canning Street
Los Angeles, CA 90040
Phone (323) 722-4933
Fax (323) 721-2738

SOLD TO

Maclean - ESNA
611 Country Club Road
Pocahontas, AR 72455
USA

CERTIFICATION

WORK ORDER
095338

HEAT NO.
10194500
SALES ORDER / RLS
847123 / 1
ISO 9001-2000 REGISTERED



MECHANICAL TESTING
CERT # 911.01

CERT# 911.01

2m/R 28155
PO 24119
281 4037

CUSTOMER P.O.	CUSTOMER PART	QUANTITY	CARRIERS	LADING NO	SHIPMENT DATE
24119-00	0420070281	1,769 Lbs	1	00100860	11/29/2012

SPECIFICATION M054037-102810A
A-4037, AQ, SKFG, CHQ WIRE, SEAM & DECARB FREE, SAIP Zinc Phosphate, Lime & Stearate Coating,
Size:0.280/0.282 Specifications: AMS 6300 E, 1042C

CERTIFICATION REQUIREMENTS

Chemical Properties

C	Si	Mn	P	S	Cu	Ni	Cr	Mo
.37	.21 ✓	.76	.01 ✓	.012	.09	.06	.17	.20 ✓

Physical Properties

Grain Size	Jominy 1	Jominy 2	Inclusions	Macro	Cleanliness	Mill Source
6 J1=55	J2=54	S2-R1-C2	GOOD	F&S=0	Charter	

Country of Origin
USA - DFAR Compliant

Mechanical Properties

TEST	UNITS	RESULTS
Tensile Strength	KSI	72.4 ✓
Yield Strength	KSI	61.6
% Elongation	%	28.5
% Reduction of Area	%	72.6
Rockwell Hardness B Scale	HRB (s)	80
Decarb (Total)	In	0.00

43474-000

Merchandise covered by this invoice is warranted to be free from defects in workmanship or material but not for any specific length of time, type or measure of service. No claim for allowance will be recognized unless presented in writing within 10 days time after receipt of material. Our maximum liability for any claim predicated upon defective merchandise is limited to replacement of it, or to repayment of it, or to repayment of the purchase price thereof, as we elect. Material cut to specific length or size cannot be returned for credit and request for cancellation of such orders will not be considered if manufacture has been commenced. Buyer, by acceptance of the merchandise covered by this invoice, agrees to the foregoing terms and conditions and those set forth on the reverse hereof. The recording of false, fictitious or fraudulent statements or entries on this document may be punished as a felony under Federal statutes including Federal law, Title 18, Chapter 47.

REPRODUCTION OF THIS CERTIFICATION IS NOT ALLOWED UNLESS IN FULL.

Wire Tech, Inc. metallurgical laboratory is accredited in the following test: chemical analysis per ASTM E 415, mechanical testing per ASTM A 370, Rockwell hardness per ASTM E 18, metallographic mount preparation per ASTM E 3, decarburization depth per ASTM E 1077, IFI 140, inclusion rating per ASTM E 45, decarburization performed as per IFI 140. The reported Chemical and Physical Properties are Mett Source results. Transcribed from mill certificates. HRB(HV) are hardness results performed with a 1/16" carbide ball. Unless otherwise specified, HRA and HRC results are conversions from ASTM A370 tables 1 and 2. Test result not covered by our current A2LA accreditation. Tests which have been undertaken by a subcontractor laboratory that is not accredited are not endorsed by A2LA or covered by Wire Tech, Inc. A2LA accreditation.

TEST RESULTS RELATE ONLY TO THE ITEMS TESTED.

"LATEST REVISIONS OF ASTM"

DFAR Material per Clauses 252.225-7014 ALT. 1, 252.225-7009, & 225.003(9)

Material is free of mercury, radium, or alpha contamination.



**CHARTER
STEEL**

A Division of
Charter Manufacturing Company, Inc.

EMAIL

1658 Cold Springs Road
Saukville, Wisconsin 53080
(262) 268-2400
1-800-437-8789
FAX (262) 268-2570

CHARTER STEEL TEST REPORT
Reverse Has Text And Codes

Wiretech Incorporated
6440 East Canning Street
Attn: Andre Stephan
Los Angeles, CA-90040

Cust P.O.	6865-1
Customer Part #	4037C1A090-C
Charter Sales Order	70032662
Heat #	10194500
Ship Lot #	4152067
Grade	4037 R SK FG AQ 23/64
Process	HRSA
Finish Size	23/64

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed below and on the reverse side, and that it satisfies these requirements.

Test Results of Heat Lot# 10194500

Lab Code: 7388	C	MN	P	S	SI	NI	CR	MO	CU	SN	V
CHEM %Wt	.37	.76	.010	.012	.21	.06	.17	.20	.09	.008	.001
AL	N	B	T1	NB							
.024	.0060	.0001	.000	.001							
JOMINY(HRC)	JOM01	JOM02	JOM03	JOM04	JOM05	JOM06	JOM07	JOM08	JOM09	JOM10	JOM12
SS	54	50	41	34	29	28	27	26	24	22	
JOM14	JOM16	JOM18									
21	20	20									

JOMINY SAMPLE TYPE ENGLISH = C
MACRO ETCH SURFACE = 1 MACRO ETCH RANDOM = 1 MACRO ETCH CENTER = 1
AMS 2301 FREQUENCY AVERAGE = .00 AMS 2301 FREQUENCY INDIVIDUAL = .00
AMS 2301 SEVERITY AVERAGE = .00 AMS 2301 SEVERITY INDIVIDUAL = .00
CHEM. DEVIATION EXT.-GREEN =

Test Results of Rolling Lot# 1071912

REDUCTION RATIO = 299:1

Test Results of Processing Lot# 4151834, 4152067

	# of Tests	Min Value	Max Value	Mean Value	TENSILE LAB = 0358-02
TENSILE REDUCTION OF AREA	2.0	74.6	75.9	75.2	RA LAB = 0358-02
	2	67	71	69	

NUM DECARB = 2 FREE FERRITE DECARB = .000 FREE FERR & PARTIAL DECARB = .004
CP SPHERO % LAB = 0358-02 NUM SPHERO = 2 SPHERODIZATION = 87.5

Specifications:

Manufactured per Charter Steel Quality Manual Rev 9.08-01-09
Meets customer specifications with any applicable Charter Steel exceptions for the following customer documents:
Customer Document = AMS 6300F / AMS 2301K / COP 3010M Revision = Dated =

Additional Comments:

2ml 28155
PD 24119
281 4037

43474 - 000

Charter Steel
Saukville, WI, USA



This MTR supersedes all previously dated MTRs for this order

Janice Barnard
Manager of Quality Assurance
07/10/2012

The following statements are applicable to the material described on the front of this Test Report:

1. Except as noted, the steel supplied for this order was melted, rolled, and processed in the United States meeting DFAR's compliance.

2. Mercury was not used during the manufacture of this product, nor was the steel contaminated with mercury during processing.
3. Unless directed by the customer, there are no welds in any of the coils produced for this order.
4. The laboratory that generated the analytical or test results can be identified by the following key:

Certificate Number	Lab Code	Laboratory		Address
0358-01	7388	CSSM	Charter Steel Melting Division	1653 Cold Springs Road, Saukville, WI 53080
0358-02	8171	CSSR/CSSP	Charter Steel Rolling/Processing Division	1658 Cold Springs Road, Saukville, WI 53080
0358-03	123633	CSFP	Charter Steel Ohio Processing Division	6255 US Highway 23, Risingsun, OH 43457
0358-04	125544	CSCM/CSCR	Charter Steel Cleveland	4300 E. 49th St., Cuyahoga Heights, OH 44125-1004
.	.	--	Subcontracted test performed by laboratory not in Charter Steel system	

5. When run by a Charter Steel laboratory, the following tests were performed according to the latest revisions of the specifications listed below, as noted in the Charter Steel Laboratory Quality Manual:

Test	Specification	CSSM	CSSR/CSSP	CSFP	CSCM/CSCR
Chemistry Analysis	ASTM E415; ASTM E1019	X			X
Macroetch	ASTM E381	X			X
Hardenability (Jominy)	ASTM A255; SAE J406; JIS G0561	X			X
Grain Size	ASTM E112	X	X	X	X
Tensile Test	ASTM E8; ASTM A370		X	X	X
Rockwell Hardness	ASTM E18; ASTM A370	X	X	X	X
Microstructure (spheroidization)	ASTM A892		X	X	
Inclusion Content (Methods A, E)	ASTM E45		X		X
Decarburization	ASTM E1077		X	X	X

Charter Steel has been accredited to perform all of the above tests by the American Association for Laboratory Accreditation (A2LA). These accreditations expire 01/31/13.

All other test results associated with a Charter Steel laboratory that appear on the front of this report, if any, were performed according to documented procedures developed by Charter Steel and are not accredited by A2LA.

6. The test results on the front of this report are the true values measured on the samples taken from the production lot. They do not apply to any other sample.
7. This test report cannot be reproduced or distributed except in full without the written permission of Charter Steel. The primary customer whose name and address appear on the front of this form may reproduce this test report subject to the following restrictions:
 - It may be distributed only to their customers
 - Both sides of all pages must be reproduced in full
8. This certification is given subject to the terms and conditions of sale provided in Charter Steel's acknowledgement (designated by our Sales Order number) to the customer's purchase order. Both order numbers appear on the front page of this Report.
9. Where the customer has provided a specification, the results on the front of this test report conform to that specification unless otherwise noted on this test report.

43474-000

JMR 28155
PO 24110
281 4037





B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO23060

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
6	200	EA	MS21059L3		85111E2	ITW CIP		55H08	


Jason Lewis
Vice President of Quality

02/20/14



HCS ROANOKE MAIN
CONSUMABLES SOLUTIONS
700 HENRIETTA CREEK RD
ROANOKE TX 76262



CUSTOMER CODE 13001

S M & M AEROSPACE HARDWARE, INC.
ATTN: NATACHA PIERRE
P O BOX 025263
MIAMI FL 33102-5263

S M & M AEROSPACE HARDWARE, INC.
10000 NW 15TH TERRACE
MIAMI FL 33172

TO



PURCHASE ORDER NO. 0HE709

CUSTOMER RELEASE NO.

6933434

SALES ORDER NO.

PACKED BY	WEIGHT .000	NO. CTNS.	SHIP VIA Std Ground	WAYBILL FTW219399	F.O.B. ORIGIN
DATE SHIPPED 2/24/09		SKU/Cart #			
Q U A N T I T Y			PART NUMBER / DESCRIPTION		Manufacturer Lot#
QTY.DUE	BACK ORDERED	SHIPPED	U/M		CS Lot#
150000	0	150000	EA	MS21059L3 NUT, SELF-LOCKING, PLATE MFG. NAME : ITW CIP (CALIFORNIA IND. PROD) REV LEVEL : 1 MFG. NAME : ITW CIP (CALIFORNIA IND. PROD) REV LEVEL : 1 MFG. NAME : ITW CIP (CALIFORNIA IND. PROD) REV LEVEL : 1 MFG. NAME : ITW CIP (CALIFORNIA IND. PROD) REV LEVEL : 1 MFG. NAME : ITW CIP (CALIFORNIA IND. PROD) REV LEVEL : 1 MFG. NAME : ITW CIP (CALIFORNIA IND. PROD) REV LEVEL : 1 MFG. NAME : ITW CIP (CALIFORNIA IND. PROD) REV LEVEL : 1 MFG. NAME : ITW CIP (CALIFORNIA IND. PROD) REV LEVEL : 1	0812005981 0812005982 0812005983 0812007233 0812007239 0812007240 0812007241 0812007242
Continued					

RETURNS

THE MANUFACTURER OF THE ARTICLES COVERED BY THIS INVOICE HAS CERTIFIED TO US THAT SUCH ARTICLES WERE PROCURED, AND WE CERTIFY THAT OUR SERVICES HAVE BEEN RENDERED, IN COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS OF THE FAIR LABOR STANDARDS ACT OF 1938, AS AMENDED.

CUSTOMER ACKNOWLEDGES RECEIPT OF MERCHANDISE ABOVE UNLESS SHORTAGE IS REPORTED IN 10 DAYS. WRITTEN AUTHORIZATION MUST BE SECURED FOR ANY MERCHANDISE RETURNED.

CERTIFICATION

WE CERTIFY THAT THE MATERIAL FURNISHED ON THIS ORDER CONFORMS IN ALL RESPECTS TO APPLICABLE BLUEPRINTS AND SPECIFICATIONS. EVIDENCE OF SUCH IS ON FILE WITH US OR OUR SUPPLIERS SUBJECT TO EXAMINATION.

Honeywell

HCS ROANOKE MAIN
CONSUMABLES SOLUTIONS
700 HENRIETTA CREEK RD
ROANOKE TX 76262



CUSTOMER CODE 13001

S M & M AEROSPACE HARDWARE, INC.
ATTN: NATACHA PIERRE
P O BOX 025263
MIAMI FL 33102-5263

M & M AEROSPACE HARDWARE, INC.
10000 NW 15TH TERRACE
MIAMI FL 33172

TO



PURCHASE ORDER NO. 0HE709

CUSTOMER RELEASE NO.

SALES ORDER NO.

6933434

PACKED BY	WEIGHT .000	NO. CTNS.	SHIP VIA Std Ground	WAYBILL FTW219399	F.O.B. ORIGIN
DATE SHIPPED 2/24/09		SKU/Cart #			
Q U A N T I T Y			PART NUMBER / DESCRIPTION		Manufacturer Lot#
QTY.DUE	BACK ORDERED	SHIPPED	U/M		CS Lot#
				MFG. NAME : ITW CIP (CALIFORNIA IND. PROD) REV LEVEL : 1 QTY: 7500 85111E2	0812007243
				MFG. NAME : ITW CIP (CALIFORNIA IND. PROD) REV LEVEL : 1 QTY: 7500 85111E2	0812007244
				MFG. NAME : ITW CIP (CALIFORNIA IND. PROD) REV LEVEL : 1 QTY: 7500 85111E2	0812007245
				MFG. NAME : ITW CIP (CALIFORNIA IND. PROD) REV LEVEL : 1 QTY: 7500 85111E2	0812007246
				MFG. NAME : ITW CIP (CALIFORNIA IND. PROD) REV LEVEL : 1 QTY: 7500 85111E2	0812007247
				MFG. NAME : ITW CIP (CALIFORNIA IND. PROD) REV LEVEL : 1 QTY: 7500 85111E2	0812007248
				MFG. NAME : ITW CIP (CALIFORNIA IND. PROD) REV LEVEL : 1 QTY: 7500 85111E2	0812007249
Continued					

RETURNS

THE MANUFACTURER OF THE ARTICLES COVERED BY THIS INVOICE HAS CERTIFIED TO US THAT SUCH ARTICLES WERE PROCURED, AND WE CERTIFY THAT OUR SERVICES HAVE BEEN RENDERED, IN COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS OF THE FAIR LABOR STANDARDS ACT OF 1938, AS AMENDED.

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HCS ROANOKE MAIN
CONSUMABLES SOLUTIONS
700 HENRIETTA CREEK RD
ROANOKE TX 76262



CUSTOMER CODE 13001

S M & M AEROSPACE HARDWARE, INC.
ATTN: NATACHA PIERRE
P O BOX 025263
MIAMI FL 33102-5263

S M & M AEROSPACE HARDWARE, INC.
H 10000 NW 15TH TERRACE
P MIAMI FL 33172
T O



PURCHASE ORDER NO. 0HE709

CUSTOMER RELEASE NO.

6933434

SALES ORDER NO.

PACKED BY	WEIGHT .000	NO. CTNS.	SHIP VIA Std Ground	WAYBILL FTW219399	F.O.B. ORIGIN
DATE SHIPPED 2/24/09		SKU/Cart #			
Q U A N T I T Y			PART NUMBER / DESCRIPTION		Manufacturer Lot#
QTY.DUE	BACK ORDERED	SHIPPED	U/M		CS Lot#
				QTY: 7500 85111E2 MFG. NAME : ITW CIP (CALIFORNIA IND. PROD) REV LEVEL : 1 QTY: 7500 85111E2 MFG. NAME : ITW CIP (CALIFORNIA IND. PROD) REV LEVEL : 1 QTY: 7500 85111E2 MFG. NAME : ITW CIP (CALIFORNIA IND. PROD) REV LEVEL : 1 QTY: 7500 85111E2 MFG. NAME : ITW CIP (CALIFORNIA IND. PROD) REV LEVEL : 1 QTY: 7500 85111E2 MFG. NAME : ITW CIP (CALIFORNIA IND. PROD) REV LEVEL : 1 QTY: 1284 85111E2 MFG. NAME : ITW CIP (CALIFORNIA IND. PROD) REV LEVEL : 1 CONTROL NO.: 18025558	0812007250 0812007251 0812007252 0812007253 0812007254 0812007255
Shipments over 200 lbs. ship either Watkins Motor DUTY CLASS DESIGNATION: 9801-00-1077. "INVOICES REQ'D INSIDE AND OUTSIDE OF BOX/CARTON"					
Continued					

RETURNS

THE MANUFACTURER OF THE ARTICLES COVERED BY THIS INVOICE HAS CERTIFIED TO US THAT SUCH ARTICLES WERE PROCURED, AND WE CERTIFY THAT OUR SERVICES HAVE BEEN RENDERED, IN COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS OF THE FAIR LABOR STANDARDS ACT OF 1938, AS AMENDED.

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Honeywell

HCS ROANOKE MAIN
CONSUMABLES SOLUTIONS
700 HENRIETTA CREEK RD
ROANOKE TX 76262



CUSTOMER CODE 13001

S M & M AEROSPACE HARDWARE, INC.
O ATTN: NATACHA PIERRE
D P O BOX 025263
T MIAMI FL 33102-5263
O

S M & M AEROSPACE HARDWARE, INC.
H 10000 NW 15TH TERRACE
P MIAMI FL 33172
T O



PURCHASE ORDER NO. 0HE709

6933434

SALES ORDER NO.

PACKED BY	WEIGHT .000	NO. CTNS.	SHIP VIA Std Ground	WAYBILL FTW219399	F.O.B. ORIGIN	
DATE SHIPPED 2/24/09		SKU/Cart #				
QUANTITY			PART NUMBER / DESCRIPTION		Manufacturer Lot#	CS Lot#
QTY.DUE	BACK ORDERED	SHIPPED	U/M	This request will be processed subject to Buyer being bound by Honeywell Consumables Solutions terms and conditions dated July 17, 2007 and the following guidelines: 1. Quality system compliant with EN/JISQ/AS9120:2002, and AC-00-56. ISO 9001:2000, AS9100:2004 2. Packaging is in accordance with ATA300 specifications. 3. Shipments will be made via Honeywell's choice of shipper unless requested otherwise. 4. Exception may have been taken to certain requirements on your purchase order or request for quotation.		

End of Packing List

RETURNS

THE MANUFACTURER OF THE ARTICLES COVERED BY THIS INVOICE HAS CERTIFIED TO US THAT SUCH ARTICLES WERE PROCURED, AND WE CERTIFY THAT OUR SERVICES HAVE BEEN RENDERED, IN COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS OF THE FAIR LABOR STANDARDS ACT OF 1938, AS AMENDED.

CUSTOMER ACKNOWLEDGES RECEIPT OF MERCHANDISE ABOVE UNLESS SHORTAGE IS REPORTED IN 10 DAYS. WRITTEN AUTHORIZATION MUST BE SECURED FOR ANY MERCHANDISE RETURNED.

CERTIFICATION

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Honeywell

HCS ROANOKE MAIN
CONSUMABLES SOLUTIONS
700 HENRIETTA CREEK RD
ROANOKE TX 76262

REFERENCE NO. 18025558

PAGE 1

SHIPPED DATE: 2/24/09

PURCHASE ORDER NO. OHE709

CERTIFICATE OF CONFORMANCE

CUSTOMER CODE 13001

CUSTOMER RELEASE NO.

S M & M AEROSPACE HARDWARE, INC.
SO ATTN: NATACHA PIERRE
D P O BOX 025263
TO MIAMI FL 33102-5263

S M & M AEROSPACE HARDWARE, INC.
H 10000 NW 15TH TERRACE
P MIAMI FL 33172

T O

SALES ORDER NO. 6933434

ITEM NO.	QUANTITY		PART NUMBER / DESCRIPTION	Manufacturer Lot#	CS Lot#
	SHIPPED	U/M			
1	150000.00	EA	MS21059L3 NUT, SELF-LOCKING, PLATE	QTY: 6216 85111E3	0812005981
			MFG. NAME : ITW CIP (CALIFORNIA IND. PROD)	QTY: 7500 85111E3	0812005982
			REV LEVEL : 1	QTY: 7500 85111E3	0812005983
			MFG. NAME : ITW CIP (CALIFORNIA IND. PROD)	QTY: 7500 85111E2	0812007233
			REV LEVEL : 1	QTY: 7500 85111E2	0812007239
			MFG. NAME : ITW CIP (CALIFORNIA IND. PROD)	QTY: 7500 85111E2	0812007240
			REV LEVEL : 1	QTY: 7500 85111E2	0812007241
			MFG. NAME : ITW CIP (CALIFORNIA IND. PROD)	QTY: 7500 85111E2	0812007242
			REV LEVEL : 1	QTY: 7500 85111E2	0812007243
			MFG. NAME : ITW CIP (CALIFORNIA IND. PROD)	QTY: 7500 85111E2	0812007244
			REV LEVEL : 1	QTY: 7500 85111E2	
			MFG. NAME : ITW CIP (CALIFORNIA IND. PROD)	QTY: 7500 85111E2	

This is to certify that all articles delivered on this order conform to all applicable blueprint and specification requirements. Evidence of such is on file with us and our suppliers subject to examination.

HONEYWELL - CONSUMABLES SOLUTIONS

Vice President Of Quality

Honeywell

REFERENCE NO. 18025558

PAGE 2

HCS ROANOKE MAIN
CONSUMABLES SOLUTIONS
700 HENRIETTA CREEK RD
ROANOKE TX 76262

SHIPPED DATE: 2/24/09

PURCHASE ORDER NO. OHET09

CERTIFICATE OF CONFORMANCE

CUSTOMER CODE 13001

CUSTOMER RELEASE NO.

S M & M AEROSPACE HARDWARE, INC.
SOLD ATTN: NATACHA PIERRE
D P O BOX 025263
T MIAMI FL 33102-5263

S M & M AEROSPACE HARDWARE, INC.
SHIP 10000 NW 15TH TERRACE
P MIAMI FL 33172

T O

SALES ORDER NO. 6933434

ITEM NO.	QUANTITY SHIPPED	U/M	PART NUMBER / DESCRIPTION		
				Manufacturer Lot#	CS Lot#
			REV LEVEL : 1	QTY: 7500 85111E2	0812007245
			MFG. NAME : ITW CIP (CALIFORNIA IND. PROD)	QTY: 7500 85111E2	0812007246
			REV LEVEL : 1	QTY: 7500 85111E2	0812007247
			MFG. NAME : ITW CIP (CALIFORNIA IND. PROD)	QTY: 7500 85111E2	0812007248
			REV LEVEL : 1	QTY: 7500 85111E2	0812007249
			MFG. NAME : ITW CIP (CALIFORNIA IND. PROD)	QTY: 7500 85111E2	0812007250
			REV LEVEL : 1	QTY: 7500 85111E2	0812007251
			MFG. NAME : ITW CIP (CALIFORNIA IND. PROD)	QTY: 7500 85111E2	0812007252
			REV LEVEL : 1	QTY: 7500 85111E2	0812007253
			MFG. NAME : ITW CIP (CALIFORNIA IND. PROD)	QTY: 7500 85111E2	0812007254
			REV LEVEL : 1	QTY: 7500 85111E2	
			MFG. NAME : ITW CIP (CALIFORNIA IND. PROD)	QTY: 7500 85111E2	

Continued

This is to certify that all articles delivered on this order conform to all applicable blueprint and specification requirements. Evidence of such is on file with us and our suppliers subject to examination.

HONEYWELL - CONSUMABLES SOLUTIONS

Vice President Of Quality

Honeywell

HCS ROANOKE MAIN
CONSUMABLES SOLUTIONS
700 HENRIETTA CREEK RD
ROANOKE TX 76262

REFERENCE NO. 18025558

PAGE 3

SHIPPED DATE: 2/24/09

PURCHASE ORDER NO. OHET09

CERTIFICATE OF CONFORMANCE

CUSTOMER CODE 13001

CUSTOMER RELEASE NO.

S M & M AEROSPACE HARDWARE, INC.
SOLD ATTN: NATACHA PIERRE
D P O BOX 025263
T MIAMI FL 33102-5263

S M & M AEROSPACE HARDWARE, INC.
H 10000 NW 15TH TERRACE
P MIAMI FL 33172

T O

SALES ORDER NO. 6933434

ITEM NO.	QUANTITY		PART NUMBER / DESCRIPTION	Manufacturer Lot#	CS Lot#
	SHIPPED	U/M			
			REV LEVEL : 1 MFG. NAME : ITW CIP (CALIFORNIA IND. PROD) REV LEVEL : 1 CONTROL NO.: 18025558	QTY: 1284 85111E2	0812007255
End of Certificate					

This is to certify that all articles delivered on this order conform to all applicable blueprint and specification requirements. Evidence of such is on file with us and our suppliers subject to examination.

HONEYWELL - CONSUMABLES SOLUTIONS



Vice President Of Quality



ITW CIP California

11525 South Shoemaker Ave.

Santa Fe Springs, Ca. 90670

Phone: (562) 941-3281

Fax: (562) 941-4967

Customer: Honeywell CS

700 Henrietta Creek Rd. Roanoke, Tx. 76262-6398

Quantity 322,500 **Line# 01**
P.O. # 915625
Shipper # CN
699900

Certificate of Conformance

Certificate of Conformance certifies that the fasteners in this shipment have been manufactured in accordance with ITW's quality system manual, applicable drawings and specifications. dimensional, mechanical, metallurgical and finish tests were performed and conform to said specifications. Traceability information is maintained and on file by lot number. We certify that this lot was manufactured free from Mercury, Radium, Alpha source contamination and Ozone depleting substances.

CERTIFIED TO AS9100:2004 / ISO9001:2004

MADE IN U.S.A.

ECCN: 9A991.d				Schedule B: 7318.16.0000	HTS: 7318.16.0030	
Part #:	MS21059L3	Revision:	01	Certification Lot #:	85111E2	Cert. Date: 11/25/08
Description: Nut, Self Locking, Plate, Two Lug, Floating				Shipping Label Lot# = 85111E2330		
Procurement Spec:	NASM 25027 Rev.New	Nut Heat #:	285094	Qty Shipped		
Material Spec.:	AMS-QQ-S-700A	Cage Heat #:	280399	Grade 1050		
Raw Mat'l Cert:	(See Attached)	Supplier:	Calstrip / Nucor		322,500	CN

MECHANICAL TESTING

ULTIMATE TENSILE STRENGTH POUNDS (See Attached)	PUSHED OUT POUNDS (See Attached)	HARDNESS ROCKWELL "C" SCALE (See Attached)
STRESS EMBRITTLEMENT (See Attached)	LOCKING TORQUE (See Attached)	TORQUE OUT (See Attached)

METALLURGICAL TESTING

Discontinuities:	Surface Contamination	Grain Flow	Microstructure
32	32	32	32

SPECIAL PROCESSES

STAMP

HEAT TREAT: Per Print Specification



FINISH: CADMIUM PLATE per AMS-QQ-P416 Rev. B, TYPE II CLASS 2 + Dry Film Lubricant
Per NASM 25027 Rev. New



THREADS: .190-32 UNJF-3B ~ Per AS8879 (D)



NDT: Magnetic Particle Inspection per ASTM E1444-05 (See Attached)



Accepted

Rejected

32

0

STAMP



AUTHORIZATION QUALITY REPRESENTATIVE:

Chris Nagy

DATE:

11/25/08



MTR

ITW - CIP CALIFORNIA
 11528 SHOEMAKER AVE., SANTA FE SPRINGS, CA 90670
CERTIFICATION / TEST REPORT

Customer Name: Honeywell

Page 1 of 3

Test Report Number: 29 Issue Date: 11/21/08

Part Number: MS21059L3 Rev: 01 ITW/CIP# A10004-017-105

Part Description: Floater Nut and Cage Assembly

Lot Number:

85111E2

Procurement Specification: NASM 25027 Rev. NEW

Inspection Lot Size:

322,500

*CN
11/25/08*

Thread Size: .190-32 UNJF-3B

Accrediting Body: NSF-ISR Certification Number: 47421-TS3 Expiration Date: 9/12/2010

CHEMISTRY

Raw Material Supplier:	Calstrip	Tested by:	Atlas Testing	Conforming:
Raw Material Specification:	AMS-QQ-S-700A	Lab Report Number:	859453	<input checked="" type="radio"/> Yes <input type="radio"/> No
Nut Heat Number:	285094	Lab Report Number:	452279	
Cage Heat Number:	280399	Certification Number:	105.01	Expiration Date: 12/31/2008
Accrediting Body:	A2LA			

Requirement	Results			Test Method * Pass/Fail
Axial Test: 2,460 Min(LB) <u>27 Pcs</u>	2861	3677	3780	 D.M./C.N. Results: PASS Date: 11/23/08
	3757	3522	3721	
	3630	3076	3658	
	3673	3132	3829	
	3362	2972	3026	
	3254	3836	3820	
	3174	3700	3681	
	3122	3061	3882	
	3800	3780	3753	
Push Out: 100 Min (LB) <u>27 Pcs</u>	331	292	287	 D.M./C.N. Results: PASS Date: 11/23/08
	316	308	187	
	272	292	228	
	281	246	292	
	292	289	211	
	283	310	252	
	257	283	289	
	278	294	235	
	295	257	252	
Torque Out: (IN-LB) 60 Min. <u>27 Pcs</u>	75	79	82	 D.M./C.N. Results: PASS Date: 11/23/08
	77	81	99	
	78	82	86	
	75	85	88	
	83	82	81	
	80	76	87	
	84	80	90	
	78	83	82	
	85	85	86	

Report shall not be reproduced except in FULL.

MTR

Requirement	Results										Test Method * Pass/Fail
	1ST ON	BKW	1ST OFF	7TH ON	BKW	7TH OFF	15TH ON	BKW	15TH OFF		
Prevailing Torque: (IN-LB)	11.50	8.50	9.50	9.00	8.25	8.00	7.50	6.25	6.75		Lab Tech: D.M./C.N. Results:  PASS
	8.50	8.00	7.75	6.75	6.00	6.50	5.75	4.00	5.00		
	9.50	7.75	8.75	8.50	7.00	8.00	7.25	6.00	6.50		
	8.00	6.75	7.25	6.75	5.50	6.00	5.75	4.50	5.00		
	8.50	8.00	7.75	6.75	6.00	6.50	5.75	4.50	5.00		
	7.75	6.00	7.00	6.75	5.50	6.00	5.25	4.50	5.00		
	15.00	13.75	14.25	14.00	13.00	13.25	12.50	11.00	11.75		
	9.25	8.00	8.75	8.50	7.50	8.00	7.50	6.00	6.75		
	10.00	9.25	9.50	8.75	7.25	8.00	7.50	6.75	7.00		
	7.75	6.00	7.00	6.75	5.50	6.00	5.25	4.50	5.00		
	8.50	8.00	7.75	6.75	6.00	6.50	5.75	4.00	5.00		
	15.25	13.75	14.25	14.00	13.00	13.25	12.50	11.00	11.75		
	8.00	6.75	7.25	6.50	5.50	6.00	5.75	4.50	5.00		
	7.75	6.00	7.00	6.75	5.50	6.00	5.25	4.50	5.00		
18.0 Max	9.25	8.00	8.75	8.50	7.50	8.00	7.50	6.00	6.75		Date: 11/23/08
	10.00	9.25	9.50	8.75	7.25	8.00	7.50	6.75	7.00		
	7.75	6.00	7.00	6.75	5.50	6.00	5.25	4.50	5.00		
	8.50	8.00	7.75	6.75	6.00	6.50	5.75	4.00	5.00		
	15.25	13.75	14.25	14.00	13.00	13.25	12.50	11.00	11.75		
	8.00	6.75	7.25	6.50	5.50	6.00	5.75	4.00	5.00		
	7.75	6.00	7.00	6.75	5.50	6.00	5.25	4.50	5.00		
	9.25	8.00	8.75	8.50	7.50	8.00	7.50	6.00	6.75		
	8.50	8.00	7.75	6.75	6.00	6.50	5.75	4.00	5.00		
	11.50	8.50	9.50	9.00	8.25	8.00	7.50	6.25	6.75		
	15.50	13.75	14.25	14.00	13.00	13.25	12.50	11.00	11.75		
	8.75	8.00	7.75	6.75	6.00	6.50	5.75	4.00	5.00		
	9.25	8.00	8.75	8.50	7.50	8.00	7.50	6.00	6.75		
	8.00	6.75	7.25	6.75	5.50	6.00	7.50	6.00	6.75		
2.0 Min.	7.75	6.00	7.00	6.75	5.50	6.00	5.75	4.50	5.00		Date: 11/23/08
	9.25	8.00	8.75	8.50	7.50	8.00	7.50	6.00	6.75		
	8.50	8.00	7.75	6.75	6.00	6.50	5.75	4.00	5.00		
	15.25	13.75	14.25	14.00	13.00	13.25	12.50	11.00	11.75		
	8.00	6.75	7.25	6.50	5.50	6.00	5.75	4.50	5.00		
	7.75	6.00	7.00	6.75	5.50	6.00	5.25	4.50	5.00		
	9.25	8.00	8.75	8.50	7.50	8.00	7.50	6.00	6.75		
	8.50	8.00	7.75	6.75	6.00	6.50	5.75	4.00	5.00		
	11.50	8.50	9.50	9.00	8.25	8.00	7.50	6.25	6.75		
	15.50	13.75	14.25	14.00	13.00	13.25	12.50	11.00	11.75		
	8.75	8.00	7.75	6.75	6.00	6.50	5.75	4.00	5.00		
	9.25	8.00	8.75	8.50	7.50	8.00	7.50	6.00	6.75		
	8.00	6.75	7.25	6.75	5.50	6.00	7.50	6.00	6.75		
27 Pc's	7.75	6.00	7.00	6.75	5.50	6.00	5.25	4.50	5.00		Date: 11/23/08
	9.25	8.00	8.75	8.50	7.50	8.00	7.50	6.00	6.75		
	8.50	8.00	7.75	6.75	6.00	6.50	5.75	4.00	5.00		
	11.50	8.50	9.50	9.00	8.25	8.00	7.50	6.25	6.75		
	15.50	13.75	14.25	14.00	13.00	13.25	12.50	11.00	11.75		
	8.75	8.00	7.75	6.75	6.00	6.50	5.75	4.00	5.00		
	9.25	8.00	8.75	8.50	7.50	8.00	7.50	6.00	6.75		
	8.00	6.75	7.25	6.75	5.50	6.00	7.50	6.00	6.75		
	7.75	6.00	7.00	6.75	5.50	6.00	5.75	4.50	5.00		
	11.00	8.50	9.50	9.00	8.25	8.00	5.25	4.50	5.00		
	9.25	8.00	8.75	8.50	7.50	8.00	7.50	6.25	6.75		
	8.50	8.00	7.75	6.75	6.00	6.50	5.75	6.00	6.75		
	15.00	13.75	14.25	14.00	13.00	13.25	12.50	11.00	11.75		
	7.75	6.00	7.00	6.75	5.50	6.00	5.25	4.50	5.00		
Hardness (HRC)	82.7	44	N15	83.1	45	HRC	N15	44	82.3		Lab Tech: C.N. Results:  PASS
	82.3	43		82.0	43						
	82.5	44		82.1	43						
	83.4	45		83.9	47						
	82.6	44		82.4	43						
	82.9	44		83.6	46						
	82.4	43		83.0	45						
	83.0	45									
Rivet Hole to Rivet Hole: .688 +/- .002	.689	.689	.688	.689	.688	.689					Inspector: J.V./C.N. Results:  PASS
	.689	.688	.689	.689	.688	.689					
	.688	.689	.689	.689	.688	.689					
	.689	.689	.688	.688	.688	.688					
	.688	.689	.689	.689	.688	.689					
	.688	.689	.689	.689	.688	.689					
	.688	.689	.689	.689	.688	.689					
	.689	.688	.689	.689	.688	.689					
	.689	.688	.689	.689	.688	.689					
	.689	.688	.689	.689	.688	.689					
32 Pc's											Date: 11/21/08

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Test Report Number:

Page 3 of 3

Package to Include:

- Steel Heat(s) Certification (Both Certs Nut and Cage)
 - Atlas Test Report(s) (Heat Numbers must match that on Steel Heat Certificates)
 - Copy of Label with all required information
 - Copy of Shipper
 - Copy of Finish Certification Testing
 - Copy of Magnetic Particle Testing
 - Copy of Stress Embrittlement Certificate
 - Copy of Certificate of Conformance

*** NOTES:**

The results relate to only items tested.

Approved By: Chris Nagy
PRINT

PRINT
Report shall not be reproduced except in FULL.
f:\oops\forms\cinc291.xls

Signature:

Title

Chris Page
QA Supervisor

6/03/08 F Romero



MTR

NUCOR
 SHEET MILL GROUP

 Nucor Steel-Crawfordsville
 4537 South Nucor Road
 Crawfordsville, IN 47933-0907

METALLURGICAL TESTING CERTIFICATION

CB39601

 Certificate Number: 287870
 Date Issued: 09/23/2008
 Page: 1 of 1

 Order Number: 187594 - 0002
 Order Dimensions: 0.0401 in X 45.5000 in
 CR,CUT,1050

 SAE J403
 Suitable for conversion to ASTM A682
 Suitable for conversion to ASTM A684

 Coil Number
 1348076.000 HEAD TAIL
 Rockwell B: 80 78

 Part Number
 CR1050-04-NOM

Grain Size: 8

LOS ANGELES

CA 90040

Cust PO Number: PC3783CS


DHC

CHEMICAL ANALYSIS

Heat	Slab	C	Mn	P	S	Si	Cu	Sn	Ni	Cr	Mo	Al	N	V	Nb	Ti	B	Sb
285094	01	0.52	0.640	0.014	<0.001	0.234	0.163	0.012	0.068	0.091	0.028	0.030	0.010	<0.001	<0.001	0.004	<0.005	0.003

 WE HEREBY CERTIFY THE ABOVE IS CORRECT AS CONTAINED IN THE RECORDS OF THE CORPORATION
 MELTED AND ROLLED IN THE USA

OF-0261 09/18/2007

NUCOR QUALITY ASSURANCE

Bodycote

BODYCOTE TESTING GROUP – Division 455
 10005 Freeman Avenue, Santa Fe Springs, California 90670
 Tel: (562) 948-1721 Fax: (562) 944-6389 www.bodycotestgroup.com

Customer: CALSTRIP STEEL CORPORATION
 7140 RAMONA BOULEVARD
 LOS ANGELES, CA 90046-1388
 Material: 1050
 Specification:
 AMS-QQ-S-700B✓

PO#0: 6519
 P/N:

Lab No: 452279 ✓

Date: 03/26/08

Part Number: 280399 ✓
 Other: Flat test piece.

153
153
INSI

PAC 1/2

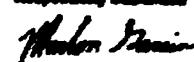
CERTIFICATION OF TEST				
COMPOSITION ELEMENT	PERCENTAGE MAX %	PERCENTAGE MIN %	ACTUAL	COMMENTS
Unless otherwise indicated all units are in weight %				
C Carbon	0.40	0.35	0.30	
Mn Manganese	0.60	0.30	0.25	
Si Silicon	0.15	0.30	0.23	
P Phosphorus		0.030	0.009	
S Sulfur		0.035	0.003	

Conforms to requirements.

Comment: METHOD: XRF, COMBUSTION.

NOTE: Chemistry performed at BTG-221

Responsible Submitter


 Marlon Garcia
 QC Technician

BODYCOTE TESTING GROUP



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Bodycote

BODYCOTE TESTING GROUP - Division 455
10005 Freeman Avenue, Santa Fe Springs, California 90670
Tel: (562) 946-1721 Fax: (562) 944-8389 www.bodycotetesting.com

TOTAL P.09

Customer: CMSTRIP STEEL CORPORATION
7140 RANCHO BOULEVARD
LOS ANGELES, CA 90648-3388

PO/SO: 6519

Material: 1050 Carbon Steel

P/N:

Specification: AHS-0002, *✓* CN 10/30/08
AHS-00-8-7002 ✓

Lab No: 452279 Date: 09/26/08

Other: Flat test piece.

CERTIFICATION OF TEST

BEND TEST

Two transverse specimens were bent 180 Deg. over a 27 dia.
mandrel. Visual inspection revealed no evidence of cracks.

REARS

288399 ✓

P/C 2/2



Conforms to requirements.

Responsible Examiner
Hector G. Garcia
QC Technician

BODYCOTE TESTING GROUP

Accredited
Nadcap
Materials Testing Laboratory

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NUCOR
SHEET MILL GROUP

Nucor Steel-Crawfordsville
4537 South Nucor Road
Crawfordsville, IN 47933-9450

METALLURGICAL TESTING CERTIFICATION

C134167

Certificate Number: 263573
Date Issued: 20080410
Page: 3 of 3

(OF)

Chris Faggy
3/2/08

Order Number: 182351 - 0002
Order Dimensions: 0.0240 in X 48.0000 in
CR,CUT,1050

Customer Name: CALSTRIP INDUSTRIES, INC.
Customer Address: 7140 BANDINI BOULEVARD

LOS ANGELES

CA 90040

Cust PO Number: P03332CS

Coil Number
1287009.000 HEAD
L-Yield (ksi): 57.8 HEAD
L-Tensile (ksi): 69.7
L-Elong (%): 28.8

Rockwell B: 70

Part Number
cr1050-024nom



DHC

CHEMICAL ANALYSIS

Heat	Slab	C	Mn	P	S	Si	Cu	Sn	Ni	Cr	Mo	Al	N	V	Nb	Ti	B	Sb
280399	04	0.50	0.660	0.010	<0.001	0.222	0.098	0.008	0.032	0.043	0.021	0.029	0.009	0.002	0.001	0.003	<0.0005	0.002

WE HEREBY CERTIFY THE ABOVE IS CORRECT AS CONTAINED IN THE RECORDS OF THE CORPORATION
MELTED AND ROLLED IN THE USA

3F-0261 09/18/2007

NUCOR QUALITY ASSURANCE

Daniel E. Larson

HEARTLAND PRECISION FASTENERS
301 Prairie Village Drive
New Century, Ks. 66031
Ph: (913)829-4447
Fax: (913)829-7282

DATE 11/20/08

**I.T.W. / C.I.P. CALIFORNIA
11525 SHOEMAKER AVE.
SANTA FE SPRINGS, CA 90670**

**PROCESS PER :AMS-QQ-P-416 REV-B
:DRY FILM LUBRICANT PER NASM25027**

**I.T.W. P.O. # 77959-6414
I.T.W. LOT # 85111E2
H.P.F. LOT # 34951
I.T.W. PART # MS21059L3
WEIGHT = 1,355 LBS.**

**Heartland Precision Fasteners certifies that the above parts have
Undergone embrittlement relief within 2 hours of plating via baking at
375 degrees, +/- 25 degrees, for a minimum of 23 hours.**

Authorized Signature:

Jefferson Robbins

SPC





Son Set Consultants

PO Box 1536
 (7679 North 140th East Ave.)
 Owasso, OK 74055
 918-633-0740
www.weld-procedure.com

Magnetic Particle Examination Record

Customer: ITW CIP Stampings

Date: 20-Nov-2008

Time: 8am - 12 noon

Lot No.: 85111E2

Reference Code/Specification: ASTM E1444-05

MT Procedure No.: MT-01 Rev. No.: 1

Serial No. 13787 Technique: X Voke / Prods

Current Type: X A/C D/C Magnetic Particle Type: X Wet Dry X Fluorescent Visible

Amperage (Prod Technique Only) N/A Amps/inch of Prod Spacing Prod Spacing N/A

Part/Item Material Type: Plate Nuts / CS Material Thickness .043

Lighting Equipment: X Fluorescent Light Model # SB-100P Serial # SSC#BL#003

 White Light using Parker Research Y300 or Y400 Probe light

 Flashlight # of Batteries: Type: cell Max. Distance from object: 3 - 4 "

Other:

Light Intensity on surface to be examined: 100 foot candles ~W/cm²

Light Intensity Meter: Model # 401025 Ser.# LM-1 Calibration Due Date 01-Jan-2009

Comments: No Rejectable Indications Noted

Examination Results			
Item #	Part Identification	Accept / Reject	Indication Description
1 - 34 each	34 each Plate Nuts Part No. : MS21059L3 Rev. 01 Lot # 85111E2	ACCEPT	No Rejectable Indications Noted

Examiner: Rick Gaffney

Qualification Level: MT Level III

Son Set Consultants
 AWS ATPS 060-101
 State of OK S PL-00
 Rick R. Gaffney

API 510 # 1400



RICK GAFFNEY
 CW 091120
 DD 091120

SPC





Son Set Consultants

PO Box 1536
7879 North 140th East Ave.
Owasso, OK 74056
918-633-0740

E-Mail: Rick@weld-procedure.com, WEB: www.weld-procedure.com

Page 1 of 1

MIL STD 1312-14 Stress Embrittlement testing / NASM 1312-14 Stress Embrittlement testing

REPORT OF EXAMINATION

CUSTOMER: ITW CIP Stampings

JOB NUMBER: MS21059L3 Rev.01 Lot # 85111E2

FASTENER DESCRIPTION: Nut, Self Locking Plate, Two Lug, Floating

PART NUMBER: MS21059L3 Rev.01 Lot # 85111E2

MANUFACTURER: ITW CIP Stampings

PART MATERIAL / FINISH: 1050 / Cadmium Plate

per AMS-QQ-P-416 Rev B Type II, Class 2
with dry film lubricant

NOTE* Fastener information needed prior to performing the Stress Embrittlement testing:

1. Fastener material type / material finish - 1050 / Cadmium Plate per AMS-QQ-P-416 Rev B Type II, Class 2 with dry film lubricant
2. Fastener thread size & type - 190-32 UNJF-3B
3. Fastener description - Nut, Self Locking Plate, Two Lug, Floating
4. Test time required - 23 hours min hold time

INSTALLATION TORQUE, ELONGATION OR LOAD: 2460 lbs min load.

TEST METHOD USED: extension method

TEST (PART HOLD ON LOAD / STRESS) TIME: 23 hours hold time

EXTERNALLY THREADED MEMBER (BOLT) USED: 10-32 1" long / AISI 1050 heat treated to 45HRC

CALCULATIONS IF APPLICABLE: e = 0.090893

$$e = \frac{E}{B} [X + 0.752 + \frac{YR^2}{S^2} - Y]$$

NDE PROCEDURE NO: Fluorescent Penetrant Test per SSC-PT-1-Rev#0

TYPE: fluorescent penetrant inspection

MATERIAL THICKNESS: 0.019"

LIGHTING EQUIPMENT: ITW CIP Stampings

TEST RESULTS

LOCATION AND DESCRIPTION OF INDICATIONS IF ANY (Such as Linear or Rounded, Cracks, Seams, Laps, Cold shuts, Laminations, Surface porosity, and Lack of fusion.)

No indications noted

NDE EXAMINER: Rick R. Gaffney NDE Level III NAME LEVEL II / or Level III

DATE: 22-Nov-2008 TIME: 3:00 pm



SPc



TEST REPORT
"Sample(s): Customer Supplied"



ATLAS
TESTING LABORATORIES, INC.
ATLASLABS@ATT.NET

9820 SIXTH STREET • RANCHO CUCAMONGA, CA 91730 • 909-373-4130 FAX 909-373-4132

MS

CALSTRIP STEEL CORPORATION
ATTN: MARIO VARGAS
7140 BANDINI BLVD.
LOS ANGELES, CA. 90040

DATE: 10/27/08
ATL# 859453
POW 6530
MAT'L. 1050 ANN.

SPEC.: AMS-QQ-S-700B Cancelled Superseded by ASTM-A-684/06 which refers to ASTM-A-682/05

HT# 285094

BEND TEST: 180° Bend Test – Satisfactory

CHEMICAL ANALYSIS: (% BY WEIGHT)

ELEMENTS	MIN. REQ.	MAX. REQ.	RESULTS
Carbon	0.48	0.55	0.53
Manganese	0.60	0.90	0.67
Phosphorus	-	0.030	0.015
Sulfur	-	0.035	0.002
Silicon	0.10	0.30	0.23
Chromium	-	-	0.08
Nickel	-	-	0.07
Molybdenum	-	-	0.02
Copper	-	-	0.17

METHOD: ASTM-E-415/99a (2005)

ATE# 202

STDS: IARM31C/NBS 1262B, 63A, 64A

REMARKS: Material as tested conforms to requirements.

Respectfully submitted,

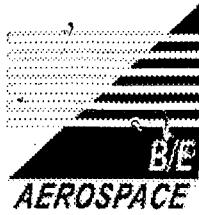
LYDIA PADILLA
Quality Control

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TOTAL P.02

ILR





B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO23060

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
10	200	EA	MS20601AD4W2		87606372	CHERRY AEROSPACE SAN 11815			


Jason Lewis
Vice President of Quality

02/20/14



CHERRY®
AEROSPACE
SPS Fastener Division, a PCC Company

Cherry Aerospace
1224 East Warner Avenue
Post Office Box 2157
Santa Ana, CA 92707-0157
USA



PACKING LIST

Order No: S0363570

Page: 1

Order Date: 10/27/11

Print Date: 07/13/12



Sold-To: 10015341

S	B/E AEROSPACE
O	PO BOX 025263
L	MIAMI, FL 33102-5263
D	USA
T	
O	

Ship-To: 10043053

S	B/E AEROSPACE
H	9835 NW 14TH STREET
I	MIAMI, FL 33172
P	USA
T	
O	

Salesperson (s):110

Credit Terms: NET 30
Net 30

Purchase Order: 0BZA19

Ship Via: YRC
FOB: Origin - Collect

Remarks:

IF UNDER 150# SHIP FEDEX GROUND COLLECT ACCOUNT# 0331-0149-0
IF OVER 150# SHIP FED EX NATIONAL ACCOUNT# 018757 - DO NOT INSURE
DO NOT PREPAY AND ADD TO ANY OF THE ABOVE METHODS
DO NOT SHIP EARLIER THAN TWO (2) WEEKS PRIOR TO DUE DATE, UNLESS SPECIFIED.

BRITISH AEROSPACE APPROVAL# BAe/AG/30158/M/A to BAe/AG/QC/SC1 PART 3
AIRBUS APPROVAL# 30114

GOODS OF UNITED STATES ORIGIN

FASTENERS ECCN: 9A991d SCHEDULE B# 8803300010
TOOLS ECCN: EAR99 SCHEDULE B# 8467290095

**IF APPLICABLE, PART MEETS DFARS CLAUSE 252.225-7009 ALT I
**PREFERENCE FOR DOMESTIC SPECIALTY METALS

CHERRY DOES NOT ACCEPT QAP33 A.3 ITEM 3

Ln	Item Number	Site T Location/Lot/Serial	Qty Open	Promised
			Qty to Ship	UM Shipped
2	CR9162-4-02 Customer Item: MS20601AD4W2	1600 K0104 87606372	EA 6000.0	05/16/12 ()

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DO NOT DESTROY**

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CHERRY®
AEROSPACE
SPS Fastener Division, a PCC Company

Cherry Aerospace
1224 East Warner Avenue
Post Office Box 2157
Santa Ana, CA 92707-0157
USA



PACKING LIST

Order No: SO363570
Order Date: 10/27/11
Print Date: 07/13/12

Page: 1



Sold-To: 10015341



Ship-To: 10043053

S	B/E AEROSPACE
O	PO BOX 025263
L	MIAMI, FL 33102-5263
D	USA
T	
O	

S	B/E AEROSPACE
H	9835 NW 14TH STREET
I	MIAMI, FL 33172
P	USA
T	
O	

Salesperson (s):110

Purchase Order: 0BZA19

Credit Terms: NET 30
Net 30

Ship Via: YRC
FOB: Origin - Collect

Remarks:

IF UNDER 150# SHIP FEDEX GROUND COLLECT ACCOUNT# 0331-0149-0
IF OVER 150# SHIP FED EX NATIONAL ACCOUNT# 018757 - DO NOT INSURE
DO NOT PREPAY AND ADD TO ANY OF THE ABOVE METHODS
DO NOT SHIP EARLIER THAN TWO (2) WEEKS PRIOR TO DUE DATE, UNLESS SPECIFIED.

BRITISH AEROSPACE APPROVAL# BAe/AG/30158/MAA to BAe/AG/QC/SC1 PART 3
AIRBUS APPROVAL# 30114

GOODS OF UNITED STATES ORIGIN

FASTENERS ECCN: 9A991d SCHEDULE B# 8803300010
TOOLS ECCN: EAR99 SCHEDULE B# 8467290095

*IF APPLICABLE, PART MEETS DFARS CLAUSE 252.225-7009 ALT I
*PREFERENCE FOR DOMESTIC SPECIALTY METALS

CHERRY DOES NOT ACCEPT QAP33 A.3 ITEM 3

Ln	Item Number	Site T Location	Qty Open Lot/Serial	Qty to Ship	UM	Promised Shipped
2	CR9162-4-02 Customer Item: MS20601AD4W2	1600 K0104	87606372	6000.0	EA	05/16/12

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CERTIFICATION

The material and/or parts we are furnishing in this shipment (as shown above) on the subject Purchase Order conform to the order and applicable specifications. Evidence that the material and/or parts meet the specifications and results of all tests for each lot affected will be in our files and will be available for your inspection at any reasonable time.

ATTENTION: PURCHASING DEPARTMENT

Quality Assurance Representative

Signed

SIM NGUYEN



Chemical Processing
Heat Treating
ISO/IEC 17025
Material Testing Lab

Final Inspection & Test Report

Cherry® Rivet

1224 East Warner Avenue
Santa Ana, CA 92707-0157

An ISO9001 and AS9100 registered company. OASIS #6111041606

Part Numbers	Rev	Proc. Spec.	Rev	Lot I.D. No.:	87606372
CR9162-4-02	P	MIL-R-7885	D2	Lot Size:	6,000
				MFG. Date:	July 13, 2012

ASSEMBLY DATA

TYPE	ID #	CERT #	MATERIAL	FINISH	LUBE
Rivet	87574397	A68336	2117/QQ-A-430	MIL-C-5541	None
Stem	87667278	A68909	2017/QQ-A-430	MIL-C-5541	None

W.O. #: 5456247

Final Lube: None

QUALITY CONFORMANCE/ACCEPTANCE RESULTS

MIN REQ'D SAMPLE SIZE SPECS	INSTALLED SHEAR		SPINDLE RETENTION	
	240		15	
	9		9	
RESULTS	348	357	38	45
	373		39	
	359		42	
	363		33	
	394		34	
	351		38	
	340		39	
LOAD VALUES IN POUNDS	341		35	

PCS.	ITEM	STATUS	PCS.	ITEM	STATUS
20	EXAMINATION	PASS	13	INSTALLATION (Min and Max Grips)	PASS

Comments:

Blind Fastener
Refer to email from J.John Park Standards Engineer Association to Soheil Eshraghi.
Dated on 1/25/2012 regarding the B diameter tolerance to be +/-0.004.

The parts contained in this shipment have been manufactured and inspected in accordance with TSO-C148. The conditions and tests required for TSO approval of this article are minimum performance standards. Aircraft fasteners approved under this TSO are not necessarily interchangeable with other aircraft fasteners approved under this TSO. Fasteners of similar dimensional properties may have widely varying performance and metallurgical properties. Substitution of parts may only be done if acceptable to or approved by the Administrator.

Tr. Rev.: 1
Rev. Date: 7/13/2012

Inspector
S Nguyen



Insp. Control #:

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1224 East Warner Avenue
Santa Ana, CA 92707-0157



Chemical Processing
Heat Treating
ISO/IEC 17025
Material Testing Lab

Final Inspection & Test Report

Cherry® Rivet

An ISO9001 and AS9100 registered company. OASIS #6111041606

Lot I.D. No.: 87606372

Rev: 1

Customer Parts List

<u>Customer Part Number</u>	<u>Rev</u>	<u>Proc. Spec.</u>	<u>Rev</u>
MS20601AD4W2	1	MIL-R-7885	D2

CERTIFIED INSPECTION REPORT AND TEST RESULTS

KAISER ALUMINUM

1547 Helton Drive - Florence, AL 35630

SHIP TO:

SOLD TO:

CHERRY AEROSPACE, SPS TECH LLC
1224 EAST WARNER AVENUE
SANTA ANA, CA 92707-0157
SANTA ANA, CA 92707-0157

CHERRY AEROSPACE, SPS TECH LLC
ATTN ACCTS PAYABLE
P. O. BOX 2157
SANTA ANA, CA. 92707-0157

Customer PO Number PO127146		NW WORK ORDER NO. 03835	<i>Shannon King</i>
DESCRIPTION .123 2117H13 TYPE C 22" 100#CL		AUTHORIZED SIGNATURE QUALITY CONTROL MANAGER	
CUSTOMER PART NO.	ALLOY 2117	TEMPER H13	We hereby certify that the material covered by this report has been inspected in accordance with, and has been found to meet, the applicable requirements described herein, including any specifications forming a part of the description, and that samples representative of the material met the composition limits and had the mechanical properties shown on this sheet.
NW PART NO. G123M5		DATE SHIPPED 9/21/2011	
WEIGHT SHIPPED 273			

		ULTIMATE		YIELD		% ELONGATION	
LOT NUMBER	# OF TESTS	STRENGTH K.S.I.		STRENGTH K.S.I.			
		Min	Max	Min	Max		
K845005	1	26.63	26.63				

COMMENTS:

M262.123 REV F

QQA-430C

MILL SOURCE KAISER

MADE IN USA

Kaiser Aluminum Fabricator
K845005

A68336

OCT 04 2011

KAISER

ALUMINUM

FABRICATED PRODUCTS

Best in Class

CERTIFIED TEST REPORT

<http://Certs.KaiserAluminum.com>

Kaiser Aluminum & Chemical
600 Kaiser Drive
Heath, OH 43056-1088
740-522-1151

CUSTOMER PO NUMBER:		CUSTOMER PART NUMBER:		PRODUCT DESCRIPTION:		
13170-ALLFAST		BG37L1		ALY-JUMBO		
KAISER ORDER NUMBER:	LINE ITEM:	SHIP DATE:	ALLOY:	TEMPER:		
214518953	1	05/07/2010	2117	O		
WEIGHT SHIPPED:	QUANTITY:	BL NUMBER:	DIAM/DAF/THKNS:	WIDTH:	LENGTH:	
37,109 Lbs	182 pcs.	5356	0.375 in.	0.000 in.	0.0 in.	
SHIP TO:	SOLD TO:					
NICHOLS WIRE INC 1547 HELTON AVE FLORENCE, AL 35630	NICHOLS WIRE INC. 1547 HELTON AVE FLORENCE, AL 35630					

Test Code: 8000

Actual Physical Properties

Lot No.	No. Tests	WGU
		ksi

845005

Chemical Composition, WT. % (Aluminum Remainder)

Lot	Si	Fe	Cu	Mn	Mg	Cz	Zn
Cast/Drop							
ChemID							
845005							
65-4F2	Act.	0.38	0.39	2.9	0.14	0.40	0.07
150135							
Chemical	Min			2.2		0.20	
Limits	Max	0.8	0.7	3.0	0.20	0.50	0.10
							0.25
Others	Each	0.05		Max		Total	0.15 Max

CERTIFICATION

OCT 04 2011



A68336
Kaiser Aluminum Fabricated
845005

Kaiser Aluminum & Chemical Corp Inc. ("Kaiser") hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales order acknowledgement form. Any warranty is limited to that shown on Kaiser's standard general terms and conditions.

John R. Despins, Technical Manager

John R. Despins

Plant Serial: 8267

Kaiser Order Number: 214518953

Line Item: 1

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KAISER

ALUMINUM

FABRICATED PRODUCTS

Best in Class

CERTIFIED TEST REPORT

<http://Certs.KaiserAluminum.com>

Kaiser Aluminum & Chemical
600 Kaiser Drive
Heath, OH 43056-1088
740-522-1151

CUSTOMER PO NUMBER:		CUSTOMER PART NUMBER:		PRODUCT DESCRIPTION:		
K-1020-ALLFAST		6Z37LB		ALY-JUMBO		
KAISER ORDER NUMBER:	LINE ITEM:	SHIP DATE:	ALLOY:	TEMPER:		
624531025	1	04/11/2011	KN17	O		
WEIGHT SHIPPED:	QUANTITY:	B/L NUMBER:	DIAM/DAF/THKNS:	WIDTH:	LENGTH:	
20564 lbs.	88 pcs.	8843	0.375 in.	0.000 in.	0.0 in.	
SHIP TO:	SOLD TO:					
FLORENCE 1547 HELTON DRIVE FLORENCE, AL 35630	FLORENCE 1547 HELTON DRIVE FLORENCE, AL 35630					

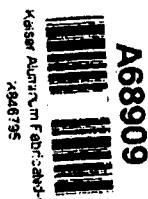
Test Code: 8000

Actual Physical Properties

Lot No.	No. Tests	WGU	WGY						
		ksi	ksi						
846795	3	MIN	25.0	11.8					
		MAX	25.2	12.3					

Chemical Composition, WT. % (Aluminum Remainder)

Lot	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Zr
Cast/Drop ChemID									
846795									
68-1F2	Act.	0.25	0.22	3.9	0.44	0.52	0.00	0.02	0.01
159318									
Chemical Limits	Min	0.20		3.5	0.40	0.40			
	Max	0.40	0.30	3.90	0.60	0.60	0.04	0.045	0.15
	Others	Each	0.05	Max		Total	0.15	Max	



DEC 06 2011

CERTIFICATION

Kaiser Aluminum & Chemical Corp Inc. ("Kaiser") hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales order acknowledgement form. Any warranty is limited to that shown on Kaiser's standard general terms and conditions.

Warren Marcucci, Technical Manager

Warren Marcucci

Plant Serial: 16263

Kaiser Order Number: 624531025

Line Item: 1

KAISER
ALUMINUM
FABRICATED PRODUCTS

Best in Class

CERTIFIED TEST REPORT
<http://Certs.KaiserAluminum.com>

Kaiser Aluminum & Chemical
600 Kaiser Drive
Heath, OH 43056-1088
740-522-1151

Specifications

QQ-A-430 REV C

Miscellaneous Notes

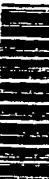
Made in USA

Mercury is not a normal contaminant in aluminum alloys. Neither mercury nor any of its compounds were utilized by Kaiser Aluminum in the manufacture of this material. Actual (Act) chemical composition is from representative samples taken during the ingot casting process. Independent chemical analysis will vary from these values because of natural variation in the process and testing error. This test report shall not be reproduced, except in full, without the written approval of Kaiser Aluminum. The recording of false, fictitious, or fraudulent statements or entries on the certificate may be punished as a felony under federal law. Chemical analysis performed in accordance with ASTM E 1251-07. The Newark facility is AS9100B:2004 approved. The Newark Laboratory is NADCAP approved for chemical testing (OES).



DEC 06 2011

Kaiser Aluminum Fabricator
K845795



A68909

CERTIFICATION

Kaiser Aluminum & Chemical Corp Inc. ("Kaiser") hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales order acknowledgement form. Any warranty is limited to that shown on Kaiser's standard general terms and conditions.

Warren Marcucci, Technical Manager

Warren Marcucci

Page 2 of 2

Plant Serial: 16263

Kaiser Order Number: 624531025

Line Item: 1



B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

[Handwritten signature]
FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO23060

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP. DATE
9	20	EA	AN174-14		62972	MAC FASTENERS	ORPT4		

[Handwritten signature]
Jason Lewis
Vice President of Quality

02/20/14

MACFASTENERS, INC.

1110 Enterprise Street
Ottawa, KS 66067
Phone: 785-242-8812
Fax: 785-242-4616

Packing List

Bill B/E AEROSPACE CONSUMABLES MGMT
To: 10000 NW 15TH TERRACE
MIAMI, FL 33172

Ship B/E AEROSPACE CONSUMABLES MGMT
To: 9835 NW 14th Street
Miami, FL 33172
United States

Shipment No: 57259
Shipment Date: 01/30/13
Ship Via: United Parcel Service
Order Number: 45401
Order Date: 06/04/12

Customer Code: BE AEROSPACE
Phone: (305) 925-2600
PO Number: 0JFA24
Terms: Net 30 Days

LOT #62972 -

Item	Quantity					Description	Revision	Job Number
	Open	Shipped	Back Ord	Canceled	Unit			
1	2,500	3,000	0	M	AN174-14 Bolt, machine-- Close Tolerance, Aircraft	7	62972	

**MAC FASTENERS, INC.
1110 ENTERPRISE
OTTAWA, KANSAS 66067**

**CERTIFICATE OF CONFORMANCE
AND
MANUFACTURER'S AFFIDAVIT**

CUSTOMER: B/E AEROSPACE

PO: 0JFA24

PART NUMBER: AN174-14

REV: .7

LOT NUMBER: 62972

MANUFACTURED QUANTITY: 6,000

MILL HEAT NUMBER: 8099283

COUNTRY OF ORIGIN: UNITED STATES OF AMERICA

DFARS 252.225.7009 Compliant

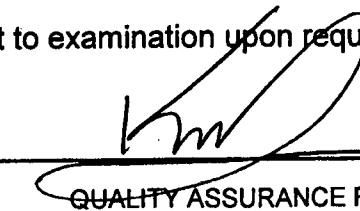
MERCURY FREE CERTIFICATION

MacFasteners Inc. certifies that the parts referenced in the above lot number do not contain Mercury or Mercury compounds, and were manufactured in a Mercury free environment.

We certify that the parts furnished against the above referenced purchase order were manufactured by MAC FASTENERS, INC. within the United States, and were processed in accordance with all applicable drawings and specifications.

Objective evidence of compliance is on file, subject to examination upon request.

DATE: 01/29/13


QUALITY ASSURANCE REPRESENTATIVE

MAC FASTENERS, INC.
1110 EAST ENTERPRISE
OTTAWA, KS 66067

CHEMICAL & PHYSICAL TEST REPORT

CUSTOMER B/E AEROSPACE				PO NUMBER 0JFA24				MFG QUANTITY 6,000			DATE 01/29/13		
PART NUMBER AN174-14				REV 7	LOT NO 62972			PROCUREMENT SPEC NASM6812					

MATERIAL TYPE 8740				MATERIAL SPECIFICATION MIL-S-6049/AMS6322				MILL HEAT NUMBER 8099283				SUPPLIER JOHNSTOWN		
C .41	Si .25	Mn .86	P .010	S .013	Cu .15	Ni .42	Cr .50	Mo .21	V .003	B		Fe .030	Al	Ti
	Co	N .0069	Bi	Pb	Mg	Zn		Nb	Sn .008				Other	

MECHANICAL TEST RESULTS - TESTING PER NASM1312

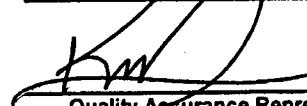
ULTIMATE TENSILE STRENGTH POUNDS		DOUBLE SHEAR STRENGTH POUNDS / PSI		HARDNESS	
5,600		8,020		ROCKWELL "C" SCALE	
5,560		8,000		REQ.	26 - 32 HRC
5,560		8,000		SAMPLE SIZE	5
5,580		8,040		ACTUAL RESULTS	
5,560		8,020		27-28 HRC	
MIN. REQ.	4080	MIN. REQ.	7360		

METALLURGICAL EXAMINATION			
Discontinuities	<input checked="" type="checkbox"/>	Carb/Decarb	<input checked="" type="checkbox"/>
Grain Flow	<input checked="" type="checkbox"/>	Microstructure	<input checked="" type="checkbox"/>
Grain Size	<input checked="" type="checkbox"/>	Appearance	<input checked="" type="checkbox"/>
Thread Inspection FED-STD-H28/20 - ASME B1.3		System <input type="checkbox"/> 21	System <input checked="" type="checkbox"/> 22
		System <input type="checkbox"/> 23	

TEST CERTIFICATION

WE CERTIFY THAT THE PART NUMBER, LOT NUMBER, AND SAMPLES REFERENCED ABOVE HAVE BEEN TESTED IN ACCORDANCE WITH THE APPLICABLE SPECIFICATION FOR THE TESTS REPORTED HEREIN. THIS CERTIFICATION SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE APPROVAL OF MAC FASTENERS, INC.

NDT/ ADDITIONAL TESTS	
Magnetic Particle Inspection per ASTM E1444	<input checked="" type="checkbox"/>
Liquid Penetrant Inspection per ASTM E1417	<input type="checkbox"/>
Recess Torque Test	<input type="checkbox"/>
Head Marking	<input checked="" type="checkbox"/>


Quality Assurance Representative

AS9100C REGISTERED
SAI GLOBAL - 0058029



**Johnstown
Wire
Technologies**

SOLD TO

Mac Fasteners, Inc.
1110 Enterprise Street
Ottawa, KS 66067
USA

124 Laurel Ave,
Johnstown, PA 15906

Phone: 814-532-5680
Fax: 814-532-5684

WORK ORDER
444512

TEST REPORT
LOT NUMBER
K-8099283
SALES ORDER / RLS
009178 / 3



CUSTOMER P.O. 50516	CUSTOMER PART 8740-2465		QUANTITY 11,095 LBS		COILS	LADING NO 7 00113446	SHIPMENT DATE 10/16/2012					
SPECIFICATION MacFast-87246 AMS2301; AMS6322; AMS-S-6049A; MIL-S-6049A 8740 DFARS TB 95000 PSI Max Defense Federal Acquisition Regulation Supplement Silicon Killed Fine Grain Aircraft Quality/Cold Heading Quality Drawn From Annealed Rod Spherodize Annealed In Process Heavy Phos & Light Lube Ctd Size: .2465 +.0005 -.0005												
CERTIFICATION REQUIREMENTS												
Chemical												
C .41	Mn .86	P .010	S .013	S1 .25	Al .030	Ni .42	Cr .50	Mo .21	Cu .15	V .003		
Cb .001 ????????	Ti .	N 0069	Sn .008									
Physical												
AMS 2301 0000	J1 58	J10 40	J11 38	J12 37	J2 57	J3 56	J5 54	J4 55	J6 52	J7 49	J8 46	J9 43
MacroClean E-381 112												
Mechanical												
TEST Tensile Str	UNITS Lbs/SqIn			HIGH 83000	LOW 82000	AVERAGE 83000						
RA Per Cent	Percent			68.7	68.2	68.5						
Decarb FFD	Inches			.000	.000	.000						
Surface def. depth	Inches			.002	.002	.002						
Rod / Melt Source												
Rod Source Republic	Melt Source Republic			Country of Origin USA	Nafta Yes							
End of Certification												

I certify that the results are a true and correct copy of the records prepared and maintained by JOHNSTOWN WIRE TECHNOLOGIES in compliance with the requirements of the cited specification. Chemistry is as reported by the rod / bar supplier and is not in JVT A2LA accreditation. This test report cannot be reproduced or distributed except in full without the written permission of JOHNSTOWN WIRE TECHNOLOGIES. The test results certified herein relate only to the items tested.

D. L. Deetscreek

D. L. Deetscreek
Director of Quality Assurance



CERTIFICATE OF TESTS

1007 EAST 28TH ST.
PHONE: 330-439-5689LOMONT, OH 44653
FAX: 330-439-5698

REPUBLIC STEEL

5/11/2012 3:10:00 PM
PAGE 1 OF 2

PURCHASE ORD: 82030
 PART NUMBER: FXT40AA-.4375
 ORDER NUMBER: 1513715 - 01
 HEAT: 8099283

PURCHASE ORDER DATE: 2/20/2012
 ACCOUNT NUMBER: 5672-1931-01
 SCHEDULE: 0170-92
 REVISION: 1

CHARGE ADDRESS

SHIP TO

JOHNSTOWN WIRE TECHNOLOGIES
 124 LAUREL AVE
 JOHNSTOWN, PA 15906

JOHNSTOWN WIRE TECHNOLOGIES
 EDWARD ZAPOLA
 C/O C & BL RAILROAD
 TRACK 629
 JOHNSTOWN, PA 15901

MATERIAL DESCRIPTION

HOT ROLLED STEEL COILS ALLOY AMS 2301K JOHNSTOWN WIRE SPEC RW-100 REVISION DTD 04/21/04 EXC PARA 10.3 AMS 6322N EXC HARD JOHNSTOWN WIRE SPEC RW-005 REVISION DTD 12/31/00 EXC SURFACE DEFECTS JOHNSTOWN WIRE SPEC PART NO. FXT40AA REVISION DTD 12/31/00 MIL S 6049A & AMD 1 COND B-1 EXC MARK & UT WAIVED EP-ALE7-8740-N FINE GRAIN VACUUM DEGASSSED AIRCRAFT QUALITY FIXED PRACTICE QUALITY RESTRICTED CHEMISTRY RESTRICTED MAX INCIDENTAL ELEMENTS

SIZE: RDS .4375 DIAM X COIL
 RDS 11.125MM DIAM X COIL

LADLE CHEMISTRY %

C	MN	P	S	SI	CU	NI	CR
0.41	0.86	0.010	0.013	0.25	0.15	0.42	0.50
V	Mo	SN	AL	B	CB	N	
0.003	0.21	0.008	0.030	0.0000	0.001	0.0069	

CALCULATED TESTS

REDUCTION RATIO 863.2 TO 1

AUSTENITIC GRAIN SIZE 5 OR FINER BASED ON A TOTAL ALUMINUM CONTENT EQUAL TO OR GREATER THAN .020% PER ASTM A29.

SEMI - FINISHED RESULTS

JOMINY HARDNESS TEST SAB J406/ASTM A255
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 18 20 22 24 26 28 30 32
 58 57 56 55 54 52 49 46 43 40 38 37 35 34 33 31 31 30 30 29 29 29

MACRO ETCH TEST ASTM E381/MIL STD 430
 ETCHANT: HCL TEMPERATURE: 170

S	R	C
PCB 13	2	1

MAGNETIC PARTICLE TEST AMS 2301 AMS2304 AMS2300
 IND AVG IND AVG
 FREQ FREQ SEV SEV
 PCB 03 0 0 0 0

FINISHED SIZE RESULTS

DECARBURIZATION TEST SAB J419/ASTM E1077/JIS G0558
 ETCHANT = NITAL MAGNIFICATION = 100X

SPIKE	COMPLETE	TOTAL
INCHES	INCHES	INCHES
PCB 6880	0.002	0 0.002

CAPABLE OF SEAM DEPTH 1+ MAX DIAMETER NOT LESS THAN .005 MAX

G. KRUTH BY DEBORAH STOKES
 DIRECTOR QUALITY ASSURANCE



CERTIFICATE OF TESTS

2601 MARY 28TH ST.
MURKIN, 330-430-6500COLUMBUS, OH 44088
FAX: 330-430-6500

REPUBLIC STEEL

5/11/2012 3:10:00 PM

PAGE 2 OF 2

PURCHASE ORD: 82030
 PART NUMBER: FXT40AA-.4375
 ORDER NUMBER: 1513715 - 01
 HEAT: 8099283

PURCHASE ORDER DATE: 2/20/2012
 ACCOUNT NUMBER: 5672-1921-01
 SCHEDULE: 0170-92
 REVISION: 1

NOTES
 CHEMICAL ANALYSIS CONFORMS TO APPLICABLE SPECS: ASTM E415, LBL10129, LBL10130, ASTM E1019,
 LBL10158, LBL10114, AND ASTM E1085, LBL10184, LBL10188.

REPUBLIC STEEL HEREBY CERTIFIES THAT THE MATERIAL LISTED HEREIN HAS BEEN INSPECTED AND TESTED IN

NOTES (CONTINUED)
 ACCORDANCE WITH THE METHODS PRESCRIBED IN THE GOVERNING SPECIFICATIONS AND BASED UPON THE RESULTS OF
 SUCH INSPECTION AND TESTING HAS BEEN APPROVED FOR CONFORMANCE TO THE SPECIFICATIONS.

CERTIFICATE OF TESTS SHALL NOT BE REPRODUCED EXCEPT IN FULL.

ALL TESTING HAS BEEN PERFORMED USING THE CURRENT REVISION OF THE TESTING SPECIFICATIONS.

RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED
 AS A FELONY UNDER FED STATUTES TITLE 18 CHAPTER 47.

THE MATERIAL WAS NOT EXPOSED TO MERCURY OR ANY METAL ALLOY THAT IS LIQUID AT AMBIENT TEMPERATURE
 DURING PROCESSING OR WHILE IN OUR POSSESSION.

NO WELD OR WELD REPAIR WAS PERFORMED ON THIS MATERIAL.

THE RESULTS REPORTED RELATE ONLY TO THE ITEMS TESTED.

SOURCE INFORMATION

MELT SOURCE: CANTON CAST ROLL MELT COUNTRY: U.S.A HOT ROLL SOURCE: LORAIN 9/10, U.S.A
 MELT METHOD: EF BLOOM RED. RATIO: 863.2

END OF DATA CC END OF DATA

WITH SHIPMENT 1 COPY PRINTED AT SHIPPING AREA
 FAX SHIP TO 1 COPY ATTENTION EDWARD ZAPOLA 1-814-532-5684
 FILE 1 COPY

G. KRUTH
 DIRECTOR QUALITY ASSURANCE

BY DEBORAH STOKES

MAC FASTENERS, INC.
1110 ENTERPRISE
OTTAWA, KANSAS 66067

HEAT TREAT CERTIFICATION

CUSTOMER: B/E AEROSPACE

DATE: 01/29/13

PO NUMBER: 0JFA24

MANUFACTURED QUANTITY: 6,000

LOT NUMBER: 62972

MATERIAL: TYPE 8740

PART NUMBER: AN174-14

REVISION: 7

REQUIRED HARDNESS: 26 - 32 HRC

SAMPLE SIZE: 5

HARDNESS: 27-28 HRC

HEAT TREAT SPECIFICATION AS APPLICABLE: MIL-H-6875/AMS-H-6875/AMS2759/AMS5853/PS-1001

The fasteners referenced in this report have been processed, inspected and certified by the Heat Treat Contractor in accordance with all applicable drawings and specifications. Heat Treatment has been verified in accordance with procurement specification and part drawing, by metallurgical and mechanical testing as applicable. Evidence of compliance as well as certification from the Heat Treat Contractor is on file and subject to examination upon request.



QUALITY ASSURANCE REPRESENTATIVE

DE TRAY

Plating Works

Specialized Electro-Plating and Polishing

Nickel	Passivate
Copper	Bright Dip
Decorative Chrome	Strip Copper
Satin Chrome	Descale
Zinc	
Cadmium	

10405 EAST ELEVENTH STREET • INDEPENDENCE, MISSOURI 64052
Phone (816) 252-8411 Fax (816) 252-8527 • E-mail : DeTrayPlating@Aol.com

January 25, 2013

Mac Fasteners
1110 East Enterprise Street
Ottawa, Kansas 66067

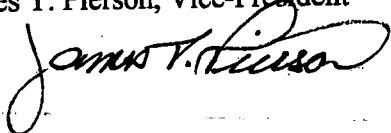
Subject: Certification

This is to certify that the following parts have been electrodeposited cadmium plate per Spec.-
QQ-P-416/AMS-QQ-P-416/NAS4160/AMS2400, Type II, Class 3. Please reference our
Invoice#167022 dated 01/25/2013 for:

Lot#-62972

P.N.- AN174-14

James T. Pierson, Vice-President



DE TRAY PLATING WORKS